

GREAT LAKES TECHNOCRAT

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Illustrating the Futility of Price System Methods of Operation; Interpreting the Trend of Events from the Social Aspects of Science; and Presenting the Specifications for Total Mobilization for Peace!

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Antidote for Chaos

How To Lose Your Weak End

By A. E. Borel, M.A.L., and the Peripattic Technocrat.

For the last generation or so an endemic psychosis has affected the collective 'mind' of America. It is a conditioned reflex produced by the decaying Price System. Let us call this National Psychosis the Price Mind of America. Our mediocre medicine men of politics, business, pulpit and little red school house piously decry this state of affairs. They 'point with alarm.' They prescribe for it moral precepts, philosophical concepts and economic gobbledy gok. All avail nothing. The disease grows worse as the Price System, of which it is a symptom, decays further. When the Price System collapses, the Price Mind will reach a crisis. It will either relapse into the complete derangement of social fascism or clear up. Here's an example of how the Price Mind operates today.

Ten Percent or Bust

The social disease of the Price Mind is a *dérangement* of the cerebrum wherein all social values are figured in accordance with the sound they make on the cash register. A little tinkle means a little social value. A loud clang means a big social value. Little tinkles are made by such problems as education, health, housing, juvenile delinquency, child welfare, divorce, etc. There are a million more. It is considered to be all right to try to solve them if you don't get too serious about it. If you do, the Price Mind will look at you queerly and find convenient ways to avoid your company. The reason is because these social values make too little a tinkle. They don't pay off enough so the Price Mind can't afford to go far out of its way to do much about them.

Loud clangs are made by such phenomena as profits (especially fat profits), chiseling, black markets, monopoly, crime, scarcity, politics, etc. These are the real McCoy. They pay off big. Their social value is high. Any citizen who doesn't concentrate on them is considered to be either 'cracked' or unfit. The Price Mind

is an evolutionary adaptation to the Price System environment. It proves the law of the survival of the fittest. In a lousy environment only a louse can survive. Get the idea?

The Price Mind is characterized by a failure to realize that the twin forces of science and technology have altered the face of civilization in North America. It is a failure to investigate the diagnosis of the Price System made by engineers, scientists and technologists. Two outstanding examples of the Price Mind arise out of 'beliefs' in the 'rights' of individuals and minority pressure groups as opposed to the General Welfare. It is of these two examples of the Price Mind that we wish to write here because they are major in character and little understood.

Me First, Second and Third

These two 'rights' of individuals and minority groups are continually harped on by those interested. That means nearly everybody. This yammering maintains in the Price Mind the concept of self-interest as being paramount. This concept is, at the

same time, openly and hypocritically decried by all parties concerned.

No wonder John Citizen has a complex. His Price Mind is conditioned, in a distorted way, to think that neither of these 'rights' is injurious to the General Welfare but that one of them is slightly more sacrosanct than the other. We refer to the 'rights' of labor and Free Enterprise to strike.

In general, John Citizen accepts the 'right' of labor to strike as being a part of the nation's economic life. The Government sanctions and protects it. The politicians who passed the legislation brag about their 'liberal' policies. Then came the railroad strike. The distress of a Nation goaded our lawmakers into what was potentially a fascist action. The 'right' to strike is a Principle written into the law. But, be it right or wrong according to our moral concepts, makes no difference. For, to the extent that it deprives the general public of needed goods and services, it injures the General Welfare. In the case of a local strike, a local patch-up job can be done. In the case of a national strike, more drastic steps must be taken. Even the most drastic step taken against labor's 'rights' will avail nothing in itself, however. In fact, it only makes the condition worse.

You Ought To See My Brother

For there is that other 'right' to strike boring from within the social body like a cancer. It never makes the front pages of our 'free press.' It is carefully concealed when it is not approved and praised. It is a child of 'the American Way of Life.' We refer to the numerous strikes by Free Enterprise. That Free Enterprise has often struck (and how) against the General Welfare is not realized by the Price Mind of America. This is

due to false reasoning induced by propaganda.

Can you honestly discern very much difference between a union man, who has to have more money, shorter hours and better conditions before he will go back to work, and a Company which says the following that appeared in the *Humboldt Standard*, Eureka, Calif., February 9, 1946:

Due to rigid opposition from the O.P.A. to any increase in the price of butter, our association is forced to stop production of butter until such time as we can produce it without taking a loss.
—Humboldt Creamery Association.

There may be a difference in degree but very little in kind. Do they not both use the same tactics to accomplish the same purpose: namely, deprive some one of something to force the ones against whom they have a grievance to accede to their wishes so they may further their own self-interest?

Deuces and Joker Wild

In Humboldt County, Calif., during the first quarter of 1946, the Lumber and Sawmill Workers deprived the public of much needed lumber by refusing to work. This was primarily a strike against Free Enterprise for a better standard of living. The public and the workers also suffered. It is a truism under the tyranny of the Price System that living standards cannot be improved without the staging of group conflicts.

Almost at the same time, in the first part of 1946, the Humboldt Creamery Association of Humboldt County also went out on strike. They deprived the public of the use of butter, a necessary food. They, themselves, have admitted this in these words: 'This dairy product is vital

to the health of our American families.' This Free Enterprise strike was not a strike against their employees. No labor issues were involved. It was not a conflict of groups. It was a strike against the United States Government, in the form of its agency the O.P.A. This agency had been set up to apply certain rules and standards for the General Welfare. Therefore, this Free Enterprise strike was directed against the General Welfare of all the people, to further the self-interest of this minority group.

Let The Suckers Wait

All during reconversion, this Nation suffered not solely from strikes by unions but also, and maybe more so, from strikes by Free Enterprise. The refusal to produce by Free Enterprise is, in effect, striking against all the people of America. Whether the O.P.A. was 'right' or 'wrong' is beside the point. The refusal to operate under the provisions of the law is clearly criminal. To make it clear enough for the most obtuse free enterpriser to understand the definition of crime, it is 'violation of law.'

Free Enterprise (all during reconversion) has deprived Americans of the necessities of life; food, clothing, housing, etc. At the same time they have exported mountains of these necessities off this Continent. In doing this they have not been condemned by the press, pulpit, rostrum or the public. Rather, the Government and its agencies have been scorned and censored for trying, even in a feeble way, to protect the General Welfare of Americans.

Energy Is Prior to Both

The Price Mind of America can see little to question about this. These

strikes have been accepted as a legitimate expression of our so-called 'free democracy' regardless of the social results. When Labor strikes, it is a menace. When Free Enterprise strikes, it is smart business. Free Enterprise says it owns the goods produced and has a 'right' to do as it pleases with them. Well, Labor also owns its labor power, doesn't it? The fact is that Labor and Free Enterprise are both infected with the Price Mind. Each one is out to advance the interests of its own minority pressure group.

The fact that America can produce an abundance for all citizens is now evident to all. This fact invalidates every pretense of every minority group in the land for preferential advancement. In a technological society the battles of minority groups result in nothing but an intensification of the scarcity that is already being maintained artificially. If pursued far enough, these struggles can break down the whole social structure. An individual or group can, by chicanery and pressure methods, win a temporary gain. The tempo of technological advance and social unbalance, however, is accelerating so fast that there is no assurance anywhere that any gains can be retained very long. They are soon cancelled out, and a new and stronger battle must be waged to keep from going under.

Do It The 'Easy Way'

The Price Mind of labor and Free Enterprise and nearly all other Americans has not adjusted itself to these facts. Individually, we still seek a way out for ourselves and our group, by Price System methods. It cannot be done. Technology is blocking off one white alley after the other. Soon there will be none left. They'll all be dead end streets. Then what? Well, there

is a way out of this growing mess. There is a way for individuals and minority groups to achieve results for themselves far beyond their fondest dreams. It is not a Price System way. It is a far better way. In using this method, it is not necessary to stage internal group conflicts. It is not necessary to strike and go hungry. It is not necessary to hold goods off the market while you conspire to kill an agency of the Government. It is not necessary to sabotage the General Welfare.

It is necessary only to realize that all individual and minority group welfare has been reduced to a common denominator by the impact of technology. That denominator is bound up in one sentence. 'Individual problems have become collective problems.' This means that only in the advancement of the General Welfare can Americans find abundance, distribution, security and equal opportunity for themselves as individuals. Only by providing them for all can each one have them. To accomplish this, it will be necessary to reorganize our entire social and industrial system along scientific lines. The way to do this has been worked out by Technocracy. So, it will not be necessary to engage in any dangerous pioneering or experimentation.

Dream of America

During the late war against foreign fascism, under the magic of cost-plus operations, labor and Free Enterprise pulled together for the General Welfare of all. A National law conscripting men into military service was adopted. High taxes were slapped on Free Enterprise. Labor pledged itself not to strike. Everybody performed a function of some kind and American technology swamped the entire world

with war goods. At the same time, the output of civilian products on the home front broke all previous records. To be sure there was a lot of crooked work behind the scenes. Congressional investigations will be busy digging up the dirt, and trying hard not to dig too deep, for a long time. The outstanding fact remains, however, that under the stimulation of a national emergency and with a plan of only partial conscription, America came closer than ever before to achieving actual abundance for all.

Millions of individuals and many minority pressure groups came closer than ever before to solving their individual problems. Remember, it was done by a concerted, national, collective effort, wherein the General Welfare was paramount. Think, then, if we did that well under a partial conscription, partial sacrifice plan for a temporary war, how infinitely better we could do under a Total Conscription, equal service from all code, for permanent Peace with Abundance.

The war didn't last long and our bubble of abundance broke when it ended. Only the dream of what might have been remains to haunt us. Perhaps a dream of what might have been also haunts the shades of over 300,000 gallant boys who died to fend off foreign fascism. Perhaps a dream haunts the millions whose young bodies were maimed in the same cause. You may rest assured that, if such is the case, it is not the same chiseling dream as that of the Price Mind of the old America. It was a dream of a New America, qualified and capable of installing a national economy of abundance for all.

All For One and One For All

The beautiful part about this dream is that it can be translated into reality.

America has everything necessary to do the job, except the will. A new and greater national emergency will furnish that. The trend of events on this Continent is inexorable. A crisis of the greatest possible magnitude is not far off. You Price Mind quarter-wits needn't start licking your chops. America's coming crisis will not be another war. Technology has taken the profit out of that. It will be something more permanent than war. It will be the collapse of an outmoded civilization, the ancient Price System, whose dominant cultural orchid is the Price Mind which calculates social problems to the tuneful clink of the cash register.

When that great time arrives, the one paramount need of America will be for a temporary, transitional method of operations to avoid the menace of social fascism on this Continent and to provide a release from Price System futility and confusion so that we may reorganize society on a stable, enduring, scientific basis. That method of operations can be none other than a National law of Total Conscription for Peace and Security. This means Total (all out and equal) Conscription of Men (both sexes 18 to 65), Machines (technology), Materiel (resources), and Money (all finances) with National Service (equal participation) from all and Profits to None (no chiseling). It has never been done before in the history of the world and America is the only Nation on earth able to do it. It requires a high degree of technological advancement to effectuate Total Conscription, for it is a technological method of social control. America is the only area that has reached that level.

Judge Them By Their Works

Under the Price System, all nations have had partial conscription of men

and women during war time. We had it here. The plan of social fascism envisions permanent conscription of men and women for the benefit of wealth and privilege. Europe experienced almost a thousand years of this type of conscription during the Dark Ages. Read your history books. The permanent hell of permanent conscription for fascism is the only alternative to temporary Technological Conscription for Peace and Security for all. American fascists are well heeled, well organized and socially well placed in high and sanctified positions. They are the scum of the Price System that, like the scum in a dirty pot, rises to the top when the boiling point is reached. America has been at the boiling point for a long time now.

Total Conscription is something new under the Sun. It is fair to all, since all are on the same basis. In case you are confused by the word 'conscription' apply the acid test to it. Partial Conscription means special privilege to some. Total Conscription means Equal Participation from All. The first is fascistic. The second is equalitarian. Here, then, is a way out for all of us as individuals, as groups, and as a Nation. Total Conscription will be used as a temporary device. When the transitional period into the New America is completed and we have arrived there safely, Total Conscription will be scrapped. It won't be needed in the Technate. Neither will the Price System. Consequently, the Price Mind disease will resolve itself for good and all.

Win, Place and Show

Since the Price Mind is a social disease wherein the victim is obsessed with a mania for self-interest, here is the way to realize self-interest to the fullest extent. Strangely enough, it

is a way furthest removed from the calculations of the Price Mind. Still stranger, when the Price Mind takes up this solution, it will not only get the pot at the end of the rainbow which it has always been chasing, but in the process it will lose its Price Mind and acquire a brand new non-Price Mind, much easier to live with.

To those many good Americans who are infected with the Price Mind and want to be deloused, we can

recommend nothing better than the act of joining Technocracy. Here is the most non-Price Minded Body of Thought in America. Technocracy has the solution to America's social problem. Thus, it can also point out the solution of individual problems since these are a part of the whole. Don't believe this blindly. Challenge the Technocrats on this point. You'll be surprised, Brother, yes, you'll be surprised!

'I Want to Be Alone'

"All systems either of preference or of restraint being thus completely taken away, the obvious and simple system of natural liberty establishes itself of its own accord. Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest his own way, and to bring both his industry and capital into competition with those of any other man, or order of men.

"It is not at all necessary, or even desirable, that the self-seeking businessman should have the public welfare in mind. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention."—Adam Smith, 1723-1790, professor of moral philosophy at Glasgow University, in his book *The Wealth of Nations*. (As quoted in *Fortune*, July, 1946).

"The poverty of the incapable, the distresses that come upon the imprudent, the starvation of the idle, and those shoulderings aside of the weak by the strong, which leave so many 'in shallows and in miseries,' are the decrees of a large, farseeing benevolence. It seems hard that an unskillfulness, which with all his efforts he cannot overcome, should entail hunger upon the artisan. It seems hard that a laborer, incapacitated by sickness from competing with his stronger fellows, should have to bear the resulting privations. It seems hard that widows and orphans should be left to struggle for life or death. Nevertheless, when regarded not separately, but in connection with the interests of universal humanity, these harsh fatalities are seen to be full of the highest beneficence. . . . Under the natural order of things society is constantly excreting its unhealthy, imbecile, slow, vacillating, faithless members . . ." Herbert Spencer, English philosopher, 1820-1903, in his book *Principles of Sociology*. (As quoted in *Fortune*, July, 1946.)

Secrets of Success

Reprinted from a Column by Sydney J. Harris in the
CHICAGO DAILY NEWS, June 20, 1946.

"Can you defeat a person with a well-balanced, well-organized personality?" asked Albert Edward Wiggam, in his daily panel, *Let's Explore Your Mind*.

"No!" Doc Wiggam emphatically answers his own question. "A well-balanced personality is the one unbeatable thing in this universe." I'm dying with laughter, doc.

If there is one fact that stands out in human history beyond all others, it is that the people with well-balanced personalities have always been kicked around, stepped on, slugged and slaughtered by the people with unbalanced personalities.

The man with an overpowering lust for money is usually the one who gets it, whilst men with only a normal amount of avarice find themselves knifed at every turn by these opportunists.

The man with a perverted passion for power is usually the one who rises to the rank of political boss, whilst men with only a normal amount of political interest pay the taxes, fight the wars, and wind up living off their children's charity.

The man with the big mouth and the brassy manner usually gets to the head of the gravy line, whilst men of

soft speech and modest demeanor have to be content with sopping up the slops—if that much is left after the Big Boys get through.

Pay Off

In a materialistic culture (whether capitalist or communist, I don't care), where spiritual values are lacking, it is the thoroughly unbalanced personality who cannot be beaten, Doc Wiggam. You're a big boy now, and should know that.

The qualities that pay off are greed, selfishness, unbridled ambition, indifference to moral standards, lying, cheating and stealing—both within and without the law. The history of the human race, as Volta said, is a record of successful lunatics, epileptics, perverts, monomaniacs, and sadists.

The cardinal virtues (justice, prudence, temperance and fortitude) that make up a well-balanced personality, are missing in at least nine tenths of the leaders in every age, from Caesar Augustus to Caesar Petrillo.

The average man, it is true has a well-balanced personality. He is harmless, generous and tolerant. That's why he always looks so beat up.

Add Definitions

'Advertising may be described as the science of arresting the human intelligence long enough to get money from it.'—Jack Benny, radio comedian, as quoted in the *American Freeman*, April 1946.

Confidence—That state of mind that enables the sucker to forget how badly he was trimmed the last time.

Intellectual—An educated ignoramus. (From Minneapolis *Twin Cities Indicator*, January 1944.)

How Long, Mr. American?

Was Barnum Right?

By L. W. Nicholson, R. D. 8234

Look In The Mirror

How long, Mr. American, do you intend to continue sabotaging your own welfare? How long, Mr. Businessman, Mr. Politician, Mr. Banker, Doctor, Lawyer, Preacher, Butcher, Baker, Candlestick Maker, Farmer, Mr. Scientist, Mr. Engineer, how long do you intend to sit on your social brains and put up with this anti-social Price System? Why have you not established as a fact the demerits of these institutions in which you believe? It is a fact, you know. Here's a bit of evidence to help you along.

Don't you realize that as long as the conditioning produced by our present institutions remains, people will continue to act in the manner in which they are acting now? The result is more wars, more strikes, more crime, more political bungling, more poverty, more unemployment, less purchasing power, less health, and more highly educated ignorance.

You, Mr. American, of all races, economic levels and creeds, are the only group who can solve America's social problems. The march of events now in progression will continue to become less tolerable until you get off the seat of your pants and learn the facts behind the social dilemma of today. As long as you expect the moronic leadership in our society to do anything about it, you deserve just what you are getting.

Only One 'Right' Way

Let's suppose, Mr. American, that you decide to build a bridge across a

river. You may think that this would be a good thing to do to make it more convenient for the people on the other side to get across to the grocery store. Perhaps, also, you think that building that bridge would, due to the aid it would be to your fellow man, be the Christian thing to do. However, if you expect to get that bridge built, you must not stop there. You turn the job over to the engineer, because it is an engineering job to design and build a bridge. To decide that the bridge should be built so as to aid yourself and your fellow man may arise, in part, from your moral convictions. To decide how and with what materials the bridge must be built is an engineering job. It is neither moral nor immoral; it is physical.

Then, Mr. American, in the name of common sense (or any other kind, for that matter), why not decide that crime, wars, insecurity and poverty in the midst of plenty shall be eliminated? You know you would be better off without these things. You must remember, though, that to decide how and with what materials the new system must be built, as well as its design, is an engineering job. It is neither moral nor immoral. It is physical. Ask your public leaders if they can apply the engineering method to social problems. If not, remind them that it is their patriotic job to resign from office, so that the job can be done by someone who can apply the engineering method.

Stand On Your Own Hind Legs

You are taught by the press, the radio, the rostrum, the pulpit, and the little red school house that 'Thou shalt not steal.' It is the law. At the same time, you are told that the natural resources placed on the earth without regard to any individual belongs not to all of us but to the first individual who can grab them off and fence them in. You are told, further, that it is only 'right' and 'proper' that this individual can make you labor for his benefit, so that you may obtain enough of these resources to exist. That's the Price System. First, you make a law against stealing; then you offer rewards for violations of the law. What kind of social insanity is this, Mr. American?

How long, Mr. Publisher, do you intend to continue sabotaging your own welfare by printing only that which is agreeable to the groups who subsidize your paper? And you, Mr. Radio Sponsor, how long before you are going to consider America in preference to your product? How about you, Mr. Politician? You have demonstrated for years your incompetence at solving the problems of modern society. How long before you resign from office as a patriotic duty to the American people? It will be the greatest public service you ever performed.

And you, Mr. Preacher, you who have dedicated your life to the brotherhood of man and the fatherhood of God! You know there will be no profits in Heaven. The needs of the angels will not be supplied according to their ability to pay. Neither will there be insecurity in the midst of plenty. How long, Mr. Preacher, do you intend to continue sabotaging your fellow man by teaching him that such nonsense is only fair and proper on earth? Is this being your brother's

keeper? Get off the devil's bandwagon, Mr. Preacher, and learn what must be done to correct matters. Remember the bridge? Do you object to designing a method of social operation which will automatically eliminate over 90 percent of all social problems? Do you object to eliminating the necessity to chisel your congregation for a paltry living? The reason you have not already done these things, Mr. Preacher, is not because you have not tried. It is because your approach is incorrect. You have failed to realize that it is primarily an engineering problem. You have resisted almost every major social change through past history. Do you expect, Sir, to make a better world without social change? Or, are you trying to palm off a 'line'?

Mr. Scientist, Mr. Engineer, Mr. Technologist, how long before you will accept the social responsibility for the things you have created? You are by your intelligence and training a logical group to assist America out of its present crisis. The law of self-preservation demands that you accept this responsibility whether you like it or not. You can only obey, but you have lingered overlong already. It is getting very late.

Mr. Editor, Mr. Radio Commentator, you have responsible positions. When you hold back the facts, for any reason whatsoever, you are jeopardizing civilization. Don't you ever get sick of stooging for the Price System? Why not thump it up for a better social system once in awhile?

Consult Technocracy

It is a fact, Mr. American, that North America is at a crossroads.

You cannot long delay the choice of which road to take. The road back to the past is gone. There is no stand-

ing still. There are only two roads ahead to the future. One leads to chaos. This is the road the social fascists of modern society would have you take. They think there is more profit for themselves along this road. The other road is a four-lane super-highway to a future of abundance for all. You cannot travel on this road with philosophical, business or political methods. You must ride the streamline vehicle of science.

You cannot repeat thermodynamics, Mr. American: You cannot reverse the irreversible. Nor can you increase and decrease production at the same time. Yet, that is precisely what the Price System must do if it is to continue. In order to keep the antiquated institutions of our present system, you must keep on increasing production. This is mandatory in the compound interest property of debt, the nature of money and the impact of technology. Yet, if you achieve it to the point of abundance, the whole price structure will collapse. Abundance has no value.

Therefore, if you want to keep these antiquated institutions, you must also decrease production and maintain scarcity, so as to be able to continue exchanging goods and services for a

price. Yet if you achieve it, the price structure collapses anyway, because of the compound interest property of debt, the nature of money, and the impact of technology. Then, there's always the possibility that the suckers might catch on to your game and kick over the applecart. Shade of Houdini! What a stinker this puzzle is!

What is required to solve America's social dilemma is that production be carried on for the purpose of distribution, instead of exchange. That is the only way there is to balance production and distribution. Unless our Continental economy is brought into balance, no solution to our common social problems can be arrived at. This job is physically impossible for the Price System. So, Mr. American, why not scrap the damn thing and install a technologically controlled and operated system that can do the job? You have nothing to lose.

After all, it's your country, isn't it? Are you going to let the fascists ruin it for you? It remains to be seen whether you are suckers enough to take the road to chaos in order to maintain an outmoded Price System beyond its day. Was Barnum right?

Where Are You Watson?

The mobile radio telephone has arrived. Trucking companies operating out of Chicago are installing them on their trucks so they can keep in touch with the home office at all times. The Illinois Bell Telephone Company has made it official. In the June 1946 issue of the telephone book, mobile radiotelephone service for calls to subscriber automobiles and trucks in Chicago and vicinity is listed for the first time. It won't be long now till every car or truck can have a phone enabling it to keep in touch with any other car

or truck or office, plant or what have you that boasts a telephone in North America. Paste this item under the heading of 'progress.' Also—watch the man-hours go down in the trucking business.

'In the old days philosophers amused themselves with writing books on the art of controversy; it is equally amusing to study the reverse—the art of abolishing controversy. Which one is more useful, more human?'—Alfred Korzybski.

How Much Coal We Use Per Year, Per Family

Reprinted by Permission of *Coal Heat Magazine*, January, 1946

By K. C. Richmond, Editor, *Coal-Heat*

'All forms of heat transfer, or of work done, are said to involve a transfer of energy, energy being the capacity for doing work. If a pound of coal is burned, the energy in that coal may be used to drive an engine or do other work. It is through the expenditure of energy that we convert all raw materials into use forms and operate all the equipment which we use. It is through the expenditure of energy that we live. The fundamental physical concept for relating and measuring all forms of physical activity is that of work, or energy, expended. It is in these terms that the technologist thinks when he considers the "standard of living," rather than in dollars, pounds and shillings, francs, marks, or rubles. Upon this basis we can measure quantitatively the physical status of any given Social system.' (Extracts from *Introduction to Technocracy*, pages 12 and 13, published, 1936.)

For Heating Purposes—

during the winter months, the average family uses:

- 4 tons of coal if we heat with a stove as 7,622,000 do.
- 6 to 15 tons of coal if we use a warm air furnace or boiler as nearly 10 million families do.
- 4 to 8 tons of coal if we live in an apartment house (not including hot water requirements).
- 14½ tons of coal if we use manufactured or mixed gas for heating fuel.
- 21 to 28 tons of coal if we live in a small house and heat with electricity generated from coal. (It takes 7,321 Kw hr to equal a ton of coal—which is 5 times as much as is required for heating with coal directly.)

For Hot Water

it takes:

- 600 lbs. of coal a year, or the equivalent, if we get it from a tea kettle or reservoir on the kitchen range—the way 15 million families do.

2400 lbs. of coal a year if we get it from a coal in the furnace or boiler—
—as 8 million families do.

- 1000 lbs. of coal a year (during the summer months) if we use mfd. or mixed gas in a side arm heater.
- 4800 lbs. of coal a year if we use mfd. or mixed gas in an automatic heater, as 2½ million families do.
- 2400 lbs. of coal a year if we live in an apartment house.
- 3000 to 6000 lbs. of coal a year if we use a bucket-a-day-heater.
- 3000 lbs. of coal a year if we use an indirect or instantaneous heater.
- 5250 lbs. of coal a year if we use an electric water heater.

For Cooking Purposes—

- 2 tons a year if we cook and heat part of the house with a coal range.
- 1½ tons a year if we cook with manufactured or mixed gas (100 lbs. per 1000 cubic feet of gas).
- 1650 lbs. a year if we cook with electricity. (6500 watts — 1100 Kw hr x 1½ = 1650).
- 680 lbs. a year if we cook to manu-

facture or process the food we use.
1 lb. of coal to make a gallon of ice cream.

For Clothing, Shoes, Nylons—

33 lbs. of coal for apparel and other finished products made from fabrics, textile mill products.
3 lbs. of coal per pair of shoes.
6 to 10 lbs. of coal per pair of nylon stockings.

Electrically—

(and most homes use electricity generated from coal) it takes:

600 lbs. of coal to light the average home.
525 lbs. of coal to operate the refrigerator.
45 lbs. of coal to operate the washer.
792 lbs. of coal to operate the clothes dryer.
150 lbs. of coal to operate the iron.
1650 lbs. of coal to operate the electric range.
5250 lbs. of coal to operate the water heater.
45 lbs. of coal to operate the toaster.
25 lbs. of coal to operate the clock.
112 lbs. of coal to operate the electric blanket.
51 lbs. of coal to operate the dishwasher.
60 lbs. of coal to operate the ventilating fan.
7 lbs. of coal to operate the hair dryer.
465 lbs. of coal to operate the oil burner.
75 lbs. of coal to operate the metal percolator.
105 lbs. of coal to operate the glass percolator.
300 lbs. of coal to operate a 'Precipitron.'

150 lbs. of coal to operate the radio.
337 lbs. of coal to operate the toaster.
15 lbs. of coal to operate the sewing machine.
7 lbs. of coal to operate the razor.
75 lbs. of coal to operate the sun lamp.
36 lbs. of coal to operate the vacuum cleaner.

For Steel or Iron—

and we use about 600 lbs. of steel per capita—more than a ton per family—50% more than was used in England, Sweden, Germany (before the war); 3 times as much as in France; $3\frac{1}{2}$ times as much as Russia. 6 times as much as Italy. In terms of coal to make the steel it takes:

8000 lbs. if you build a new home.
337 lbs. if you buy an electric refrigerator.
300 lbs. if you buy a new range.
205 lbs. if you buy a new washer.
 $1\frac{1}{2}$ lbs. if you buy a new can opener.
 $7\frac{1}{2}$ lbs. if you buy a new food chopper.
 $4\frac{1}{2}$ lbs. if you buy a new tea kettle.
9 lbs. if you buy a new dish pan.
21 lbs. if you buy a new garbage can.
75 lbs. if you buy a new lawn mower.
 $4\frac{1}{2}$ lbs. if you buy a new snow shovel.
 $1\frac{1}{2}$ lbs. if you buy a new claw hammer.
3 lbs. if you buy new ice skates.
75 lbs. if you buy a new bicycle.
6 ounces if you buy a new screw driver.
15 ounces if you buy a new fishing reel.
3 lbs. if you buy a new sauce pan.

- 7½ lbs. if you buy a new gray iron skillet.
- 4½ lbs. if you buy a new coffee pot.
- 6 lbs. if you buy a new water bucket.
- 60 lbs. if you buy a new wheel barrow.
- 1/5 lbs. of coal for the safety razor blades per user.
- 1/7 lb. of coal for the zipper or slide fasteners.

For Tin Cans, Newspapers, Laundry

- 124 lbs. of coal for the tin cans to hold the food we use.
- 56 lbs. of coal for other cans and containers.
- 800 lbs. of coal for newspapers, magazines, paper bags, wrapping paper, cartons.
- 870 lbs. of coal for laundry purposes—if we send it out (a lb. of coal per lb. of laundry).
- 4820 lbs. of coal for every \$1000 worth of products manufactured.
- 1½ lbs. of coal to cool a cubic foot of space in cold storage warehouses.
- 126 lbs. of coal per ton of ice made in commercial ice plants.

For Aspirin, Medicinals, Plastics—

which are made from derivatives in carbonizing coal it took 1350 lbs. of coal per capita in 1944 or 94,438,000 tons for the nation as a whole. While this coal helped to produce steel, manufactured gas, it gave us also:

- 1.8 lbs. of finished dyes per capita.
- 4-1/3 ounces of medicinals per capita.
- 1-2/5 ounces of perfume—flavoring extracts per capita.
- 1.4 lbs. of coal tar resins (plastics) per capita.

- 53 lbs. of rubber processing chemicals per capita.
- 29 ounces of photographic chemicals per capita.
- or in other words it takes 1 lb. of coal to produce 20 aspirin tablets, 60 lbs. of coal to produce a small plastic radio cabinet.

For Transportation—

We use an average from 2.7 to 3.8 tons of coal a year per family for railway transportation.

It takes:

- 4500 lbs. of coal to make a new automobile or a truck.
 - 1.15 lbs. of coal to move a ton of freight ten miles.
 - 1 lb. of coal to haul one three miles in a railway coach.
 - 14.8 lbs. of coal to move a passenger-train car one mile.
 - 360 lbs. of coal to haul one of us from Chicago to New York by train.
 - 4 lbs. of coal to haul one of us one mile on the 'George Washington' the Chesapeake & Ohio's popular train.
 - 169 lbs. of coal to haul one of us from Cincinnati to Norfolk by the Norfolk & Western R. R.
 - 108 lbs. of coal to haul one of us from Chicago to St. Louis via the Chicago & Eastern Illinois Railroad.
 - 84 lbs. of coal to haul one of us from Chicago to Evansville, Ind., by the same road.
 - 160 lbs. of coal to haul one of us from Chicago to Pittsburgh.
- Such is the performance of our modern steam locomotives that the Chesapeake and Ohio Railway is moving freight at a tenth of a pound of coal a ton-mile—50 tons of freight one mile with only five lbs. of coal for fuel.

Thus All Told This Averages—

around 4 tons of coal a year for every man, woman, and child in the United States, including those in Texas, California and Florida—even if they don't use coal directly

—or over 15 tons per year per family—'so don't tell us you don't use coal; if you didn't you would be living the way the Indians did less than a hundred years ago.'

Crystallized sunshine is mankind's master servant.

Where Is the Technology?

(Reprint of page 163 in Report No. 15 on War Changes in Industry Series, Iron and Steel, by the U. S. Tariff Commission, 1946.)

Table 62.—Iron and steel, coal, and coke: Physical output per man 1/ in the United States (1937), the United Kingdom (1935), and Germany (1936), in index numbers.

(United States output = 100)

Industry	United States (1937)	United Kingdom (1935)	Germany (1936)
Coal	2/ 100	2/ 38	54
Coke	100	45	69
Blast furnaces	100	28	32
Smelting and rolling of iron and steel	100	60	68
Advanced iron and steel products (wire cutlery, iron stoves, tools, and implements)	100	25	24
Average (unweighted)	100	42	52

1/ Output per operative; no correction made for divergencies in man-hours in the three countries.

2/ Index number for 1936.

Sources: L. Rostas, "Industrial Production, Productivity, and Distribution in Britain, Germany and the United States, 1935-37," *Economic Journal*, April, 1943, London, p. 46. The original index numbers, given with Britain as the base, were converted here to a new base, with the United States as 100.

These index numbers are based on output per man only, and in computing them no allowance was made for divergencies in weekly man-hours in the three countries. The average weekly hours worked by labor in the iron and steel industry in the United States in prewar years ranged from 34 in 1933 to 35 in 1939 (see table 10). The average weekly hours of labor in all manufacturing industries in the United States were 36.5 in 1935, compared with 47.2 in the United Kingdom in the same year, and 45 hours in Germany in 1936.1/ If allowance is made for such wide differences in the number of weekly man-hours in the three countries, the superiority of the United States would be even greater.

Dictionary of the Price System

A Word A Day Keeps the Fog Away

By H. V. Wilkie, 8342-1

You, Too, Can Be Famous

CURRENT literature bristles with ads for an endless variety of self improvement courses, all at so much down and so much per week or per month, as the case may be. 'Learn Spanish,' 'Improve Your English,' 'Boogie Woogie in Six Easy Lessons,' 'French Made Easy,' 'Learn to Read,' 'To Write and Speak' 'To play the Zither,' 'To Rhumba and Blacken your baby's bottom,' 'Learn Law, Radio, Knitting, Sewing, Acting' and on and on and on.

The inference might be that our fast dwindling public and rapidly growing parochial school systems have left much to be desired in the way of equipping their output with satisfactory intellectual tools for chiseling out a comfortable spot in our Price System social pattern.

Any one indulging in such an inference would find Technocracy not only marching shoulder to shoulder in agreement but marching out a step ahead, with the suggestion that mal-education, far from being a matter of neglect or incapacity, is much more probably a carefully planned expression of deliberate intent. 'Ignorance is fair game for wit' and where will our sharp-witted big shots find ignorance to exploit if our schools do not supply it.

The method is graphically illustrated in the reports of the labors of occupational forces coming in from Germany, Japan, and, to a small extent, Italy. It seems that the former big shots in those countries had seen to it that all the text books used in

the schools were loaded with dogma, propaganda, religious, racial and national doctrines, designed to make the masses easy pickings for the boys 'in the know.' In Italy, the Fascist flavor of the text books appears to suit our present taste; but in Germany and Japan we are busy with a wholesale job of remodeling to make them suitable carriers of propaganda for the 'Democratic method' (of painless extraction).

If the output there equals or approaches the home product, these places should soon be rich territory for the Self-improvement and Pull-yourself-up-by-your-bootstraps operators. Technocracy, being ever alert to endorse and wherever possible to use the best technology, hastens to seize the opportunity herewith presented to perform two highly functional services with one and the same piece of energy exertion.

Troy Fell For A Horse

One of these services has to do with a major task which will confront our uplifters on foreign soil. We refer to the necessity of rewriting the dictionaries to supply them with word definitions more in conformity with the educational pattern being installed. There is the best assurance that this will result in a great mass of semantic blanks, i.e., definitions having no reality in a world of things and events, and no operational referent. Therefore, we have prepared a selected small group of words covering a wide field. These will supply our hard pressed dictionary writers

with a few definitions of things as they really are. After all, everybody likes a little change once in a while. Maybe they will slip a few of these in the proper places so that here and there the fog of Price System propaganda may be punctured.

The other bird we can bag with one stone has to do with the fact that at the self same time we can present for the readers of Technocratic literature a priceless bit of self-help; at least, it's free. By this we mean if our readers will follow the tactics of the usual self improvement course, they can start in today to build up their factual I. Q. Simply cut out the list of words and definitions appearing below, and put them in your hat. Once a day take off your hat and memorize one word and definition each day. We have included a month's supply, with a few spares in case some days you get red hot and want to play a daily double. In case you do not have, or do not wear a hat, a vest pocket will do, and if no vest (which we would scarcely expect in the gentler sex), well, we know your thirst for betterment will surmount any and all obstacles.

In preparing this list we have not used the customary pattern of alphabetical arrangement but have followed the more subtle 'here and there' design, which we know you will find much more inspiring.

Symbols of Things and Events

HISTORY—A highly romantic account of the maneuvers for power by smart operators.

NATION—A group of business operators who have established control over hazily defined land areas. This control is maintained through a carefully nurtured batch of notions about

language habits, folkways, traditions, religious preferences, hatred, etc. When we say England demands, or France wants, or Argentine will or won't, we really mean vested economic powers in England, France or Argentina demand such or such through their political mouthpieces. There are cases, of course, where both the political and economic power are vested in the same hands, and in places all three of the dominant controlling devices, political, clerical and financial, are centered in one head.

PEOPLE—A necessary commodity in a nation, otherwise there would be nothing to exploit. In industry, a commodity is called 'labor.' In war—bullet stoppers, called 'the rank and file.'

WAR—An old business custom carried on by business men for business purposes. Example: Boer War—the Rhodes' interests fight for economic control of South Africa.

AMERICAN REVOLUTION — Revolt by colonial land barons and merchants against cutting in the profligate dudes and dandies of London on the rackets they had established over here. The Declaration of Independence was signed by the richest men in the country, who, right away, became busy with affairs of State, while farmers, fishermen, clerks and trappers did the fighting.

WORLD WAR I—International Munitions Cartels drumming up business in a big way.

AMERICAN CIVIL WAR — Battle over the price of cotton and tobacco. The rich Southern Planters revolted against political and economic control by Northern Mill owners and merchants. The last thing the Northern boys wanted was high-priced cotton, which might result from free labor,

so they threatened to impeach Lincoln when he slipped over the Emancipation Proclamation while they were not looking. Lincoln was the only major political figure who defied his bosses, and look what they did to him.

INDUSTRY — The application of technology to the production of goods and services.

BUSINESS — The exploitation of industry for a profit.

CONSCIENCE — The squashy feeling that comes the first few times a person tries to commit an act against which the common folkways have inhibited him.

MORALS — A set of inhibitions (mostly socially desirable) based largely on folkways and tribal national taboos.

CRIMINAL — A person with predatory ideas but without enough capital to start a corporation.

CONVICT — The little one that didn't get away.

CORPORATION — A device for levying tribute by remote control.

VICE — Any profitable undertaking based on human weakness; a subject for prolific conversation, but no action.

One Word Leads To Another

JUSTICE — That which smart people pay public servants liberally for, and which dumb people fight valiantly for in the courts, and seldom get.

CONGRESS — The trademark name of a playing card manufacturer, a hazy institution somewhere that is supposed to do something but never does.

REPRESENTATIVE — (Political) — A person who has reduced to a

fine art the business of passing out just the right amount of patronage to the right people so as to remain indefinitely on the public pay roll, otherwise he ceases to be a representative.

SENATOR — From 'Sen Sen' a breath lozenge and 'Tor' the bull; Breath and Bull — well, draw your own conclusions.

ANALYSIS — A factual peek at things to find out how they are put together or what makes them tick.

SYNTHESIS — The act of using the results of analysis to put the correct ingredients together to form the means of reaching a desired objective.

DEMOCRACY — From the Greek 'demos, the people' and 'cracy, to rule'. What people rule what? It's still Greek.

EQUALITARIAN — A dirty word which implies that there might be some other alternative to the Price System besides totalitarianism. You must never use this word for if it ever broke out into general usage, it might ruin every racket we have spent centuries building up.

'FREE ENTERPRISE' — From Free — Enter and Price. Means freedom to enter your pocketbook and extract the desired price!

PRIVATE ENTERPRISE — The concept of a Chiseler's Paradise, where everyone can hi-jack an individual or the whole of society without regard for anyone but himself. America's economy today is the apogee of private enterprise. That's why it's in the mess it is in now.

FASCISM (American) — The last ditch hope of die-hard private enterprisers for just one more crack at homo sapiens with accent on the 'sap.'

FREEDOM—The right of the wolf to be free to prey on the sheep; also the right of the sheep to be free from the wolf. You figure it out.

TECHNOLOGY—The application of science to the industrial arts and crafts.

TECHNOCRACY—The application of science to the problem of social integration in a hi-energy industrial environment of physical abundance.

CHURCHIANITY—The highly organized business of cashing in on man's fundamental urge to know what life is all about. It deals largely with sheep and shepherds, and its practical application has to do with shorn lambs.

NEWSPAPER—A method of distributing advertising sugar coated with spicy reading matter designed to cause intellectual atrophy.

MAGAZINE—Ditto, with color effects.

RADIO—Ditto, with sound effects.

CHISELER—Any American who can or who hopes he can obtain a differential over his neighbor through adroitness in Price System manipulation.

SUCKER—A would-be chiseler, with a blown fuse.

An Apple For The Student

Let us assume that this is now one month later and you have mastered the above list. What is the result? You will probably gag every time some smart boy tries to sell you a load of Price System baloney on the Radio

or in the Newspaper or from the Platform. Suppose you mastered a similar list the next thirty days and so on for a year, for two years? But what's the use? It wouldn't take more than one more such list (if any) to sharpen you up, so that you would get the hang of it, and do it yourself. Thus, when you hear such words as 'honor,' 'legality,' 'value,' 'law,' 'American Way,' etc., you will at once scrape off the psychological overburden and see the bill of goods you are supposed to bite on. Experience shows that at this point, you, too, will just naturally have gravitated to that nearest focal point of factual information, your nearest Technocracy Section or Study Class.

You, too, will learn how America is put together and what makes it tick!

You, too, will know the trends that are shaping America's destiny! You, too, will know what to do about the abundance and security that America is trying to throw into your lap!

You, too, will be a Technocrat—a person for whom life has a meaning and who can, after the manner of all typical American fauna, brace your shoulders and face forward, stride firmly and without fear, toward the glorious horizon of tomorrow

FOOTNOTE

It will be noted that in preparing this list many words, subject to a pungent and purposeful definition, suggest themselves. Perhaps our readers would like to keep this department going for awhile. If so, we will hold the space open as long as a suitable supply of material is made available. Who wants to lead off with such words as 'money,' 'city,' 'man,' 'incentive,' 'efficiency,' 'mousetrap,' 'hamburger sandwich.'

Flashes of American History

No. 3—Jefferson and the Louisiana Purchase

By Ben H. Williams, 8141-15

THOMAS Jefferson was a man of 'parts.' Co-author of the immortal Declaration of Independence; author of the Virginia and Kentucky Resolutions, including a provision for the abolition of chattel slavery; chief proponent of the Bill of Rights (the first ten amendments to the Constitution); gentleman farmer; amateur archaeologist; and founder of the great Washington and Jefferson University—he also deserves the appellation of 'astute politician,' so far as it is possible for a politician to be astute in the maelstrom of a rapidly changing world.

Sneered at by his Federalist opponents as 'a loose thinker,' 'a visionary,' 'a cowardly trimmer,' and as the possessor of other undesirable qualities according to the viewpoint of the New England would-be aristocrats and of the rising commercialists of New York, Jefferson, in the history of the first two decades of the nineteenth century, shines out above his contemporaries like a star of the first magnitude. These very qualities of a 'dreamer' made for a flexibility in the field of practical politics that proved indispensable in the situation prevailing at the beginning of the last century.

According to the National Encyclopedia, 'the political people, in Jefferson's views, were the holders of real estate; he regarded an agrarian democracy, as opposed to government favoring financial and urban classes, as the one healthy type of government.'

The America of 1800

Jefferson's outlook for the United States in 1801 when he became President through an accident (the House of Representatives having to decide a tie vote of the electoral college between him and Aaron Burr), was one of the great possibilities for the distant future of an agrarian democracy. At that moment, however, our country appeared as a vast wilderness, sparsely settled, without highways, with no means of communication between sections of the interior except by horseback or by slow stage over often impassable trails. The census of 1800 counted a total population of about 5,000,000 with only a few thousands west of the Alleghenies in Ohio, Kentucky and Tennessee. Diverging sectional 'cultures,' from the original British stock, were shaping themselves in New England, in the Mid-Atlantic States, in Virginia, in the Carolinas, and among the pioneers who were slowly occupying the territory westward toward the Mississippi. Spain was still in possession of East and West Florida, and of the territory west of the Mississippi from near the Canadian line to the southernmost limits of the Continent. The outlet to the Gulf at the mouth of the Mississippi—America's 'own street door'—was controlled by and at the mercy of a foreign government. This last-named circumstance was of prime significance, in Jefferson's view.

While settlement of this territory by our people would be slow and, according to Henry Adams, 'even Jef-

erson, usually a sanguine man, talked of a thousand years with acquiescence, and in his first Inaugural Address, at the time when the Mississippi River formed the Western boundary, spoke of the country as having "room enough for our descendants to the hundredth and thousandth generation"—nevertheless the United States must somehow and at that very moment get control of its 'own street door.' Otherwise, Jefferson, with a horror of wars and of mixing in foreign affairs, perceived the probability of events that might at any time involve the United States in international complications and lead to entangling alliances.

How the United States Got A Bargain

So, when the news reached the government at Washington in 1802, that Spain the year before had by a secret treaty ceded back to France the territory, including that on both sides of the Mississippi at its mouth, Jefferson was greatly concerned. The President at once communicated with Livingston, the American ambassador at Paris, empowering him to open negotiations with the French government for the purchase of the small area controlling the outlet of navigation. Livingston was empowered to bargain to the extent of about \$8,000-000 for the desired territory.

Circumstances not only favored the negotiations, but carried them far beyond the original intent. The decision rested with Napoleon Bonaparte, who at the time of the retrocession which he had wrested from Spain by force, planned to occupy the Louisiana territory with French troops and settlers. Before his plans could be initiated, however, Napoleon found it imperative to renew his war with Great Brit-

ain, and realized that he could not hope to hold the territory against the British fleet. Rather than let it fall into the hands of his enemy, and needing money for his war, Bonaparte ordered his minister Talleyrand, to negotiate with Livingston for the entire Louisiana territory, an area of over 900,000 square miles and out of which have since been formed the States of Louisiana, Arkansas, Oklahoma, Missouri, Iowa, Kansas, Nebraska, Wyoming, Montana, North and South Dakota, with a great part of the States of Minnesota and Colorado. Talleyrand offered the whole area, with somewhat hazy and undefined limits, to Livingston for \$15,000,000.

Jefferson Overrides the Constitution

The reaction to this offer is thus described by F. W. Hirst:

Great was Jefferson's joy when the despatches of Livingston and Monroe arrived at Washington. But with joy, embarrassment was mingled; for the Constitution made no provision for holding foreign territory, nor for incorporating foreign nations into the Union; and certainly did not invest any such power in the Executive. At first the President desired an amendment to the Constitution authorizing the purchase, and indeed drafted one for the purpose. But Livingston and Monroe assured him that delay might be dangerous—for Napoleon might at any moment change his mind—and Jefferson had to weigh the national interest against Constitutional propriety . . . Accordingly he summoned Congress to a special session in October. The Senate immediately ratified the treaty, and

the House voted an issue of bonds to pay for the new territory. The only protests came from a small group of Federalists, who denounced the treaty as 'unconstitutional' and questioned the validity of the title.

Jefferson, by this act, completely abandoned his hard-gained position as the champion of 'strict construction' of the Constitution, and openly admitted that he had made of that document little else than a piece of paper. The year following, according to Hirst, 'a further strain was put upon the doctrine of strict construction by an Act of March, 1804, providing for the government of the new territory, whereby it has been said the President "stepped into the shoes of the King of Spain." He was empowered to appoint the Governor, the law-making council, the superior judges, and in fact to construct the whole machinery of administration, legislative, executive, and judicial, while the inhabitants for the time being were allowed no participation in the Government.'

Thus did Thomas Jefferson, when confronted with an emergency of major significance, with vision transcending that of his contemporaries, overcome his scruples regarding 'strict construction' and, by a stroke of the pen, without war or any serious social disturbance, double the area of the United States and eliminate a multitude of probable future inter-

national complications. Jefferson appealed over the Constitution to his agrarian constituency and their approval was emphatic. Whereas, in 1800, Jefferson had been chosen by an accident, in the election of 1804, he received an overwhelming mandate from the American electors. The fact that, before the end of his second administration, events became too complicated even for his genius, is immaterial at this point. America in 1803 was fortunate in having a politician of Jefferson's astuteness at a time of such significance for its future destiny.

Thomas Jefferson did not reckon with the technological factor in his forecast of 'room enough for our descendants to the hundredth and thousandth generation.' Only 90 years later the U. S. territorial frontier had vanished beyond the Pacific coast, and the area which he had bought for a song had become the stamping ground of the last and most widespread agrarian revolt in the history of America.

Some of the forces and events leading up to this will be touched upon in our next 'Flash,' under the title, 'De Witt Clinton and the Erie Canal.'

..References on 'Jefferson and the Louisiana Purchase': Stripped of its philosophical verbiage, a fair picture of the main physical and social features of the America of Jefferson's day may be found in Henry Adams' 'History of the United States,' volumes 1 and 2. Also in these volumes is a good account of the details surrounding the Louisiana Purchase. Another work of interest on the subject is F. W. Hirst's 'Life and Letters of Thomas Jefferson.' Further research will find available a vast number of documents in our public libraries.

Two and Two Makes 'Free'

A *Chicago Daily News* account of July 20, 1946, relates that the San Francisco mint has collected two tons of the zinc pennies which are being retired from circulation. It appears that the local junk dealers are not interested in melting them

down so they are to be dumped in the bay. The Department of Interior stated recently that there is less than a .35 year supply of zinc ore left in the U. S. Add two and two and you get the meaning of the 'free' in free enterprise.

Is Peace A Worse Menace Than the Atom Bomb?

By T. Swann Harding

Senior Information Specialist, U. S. Dept. of Agriculture

(Condensed from *Frauds and Answers Magazine*, La Crescenta, Calif, May, 1946)

The Era of Transition is upon us even before we have adjusted ourselves to it psychologically. Millions of young Americans now are being deprived of the security, freedom and restraint, and exemption from responsibility characteristic of the armed forces, in order to accept the insecurity and the restraining responsibilities of civilian life. Whereas their way had been smoothed, their wants foreseen, and their position secure, they return to the disorganization and constant exacerbation of day-to-day life, sans esprit de corps, sans uniforms, sans fixed positions, sans glory.

Obviously such a transition would be difficult at any time. It is rendered more difficult now when civilian life itself must be so reoriented as to permit widespread unemployment and restricted production.

Meanwhile these young people have fallaciously idealized the civilian life they left behind, just as now they will begin to idealize their life in the armed forces. For man tends always to idealize past or remote conditions, the discomforts of which he can forget, while concentrating upon their more alluring aspects. To accustom these former favored members of our society to the dull monotony and stark uncertainty of everyday life here at home is a very delicate problem requiring great patience and tact.

To do this under adverse economic conditions will be doubly hard. Warfare is the greatest mental and emo-

tional stimulant known to man. It is the finest instrument yet devised to accelerate the processes of research and invention, and to produce and maintain prosperity under existing economic and technical conditions. The floodgates of credit are opened, sound money disappears into vapor, and even bankers themselves become enthusiastic about fiat currency.

Because we could fearlessly create the money we needed out of nothing, we were able not only to support a huge war effort, but also to make useful and important members of society out of our aged, infirm, physically handicapped, frustrated and unsuccessful citizens. The misfits were fitted in. Each had become an important member of a society animated by great unity of purpose—the total destruction of our enemies.

Riches spread over the nation. We had to save because we were compelled to buy less. We had to live more simply, more healthfully, and more sanely, both within and outside the armed forces. We had to feed the rich less and the poor adequately. Our morale heightened because patriotism invigorated us, and nothing so stirs a nation to progress as the opportunity to destroy life and property in other nations.

Everybody went to work. Income and goods were better distributed than at peace. Of course there were those who insisted that warfare involved the prostitution of scientific knowledge

which, they held, should be utilized instead to promote culture, enrich civilization and effect the progress of mankind the world over. That could, it is true, absorb its possibilities quite as well as war. But since we would not make such use of science, global war came inevitably.

Scientific knowledge had to be used by someone somehow. Since our scientists quite generally renounced the job of directing its wise use at peace, the predatory and avaricious stepped in to use it unwisely. This brought on the war because it produced widespread technological unemployment and a disorderly social economy. However, global war is a logical adjustment to technological progress, if less violent adjustments are prohibited.

For one it makes use of many individuals of both sexes for whom we refuse to find a place while at peace. Of thousands of these it disposes permanently. At peace we often deprive as many thousands, even millions, of all economic functions in our society. Undoubtedly they suffer much more as members of our normal peacetime 'underprivileged' classes than they do in the armed forces, even when making the so-called 'supreme sacrifice.' However, many of them do not make this sacrifice for, if too many made it, war would not be the success that it is.

These survivors now seek a place in our society right at the time of contracting opportunity. Too few of us have stopped to understand the tremendous implications of our own technological progress. The 1940 level of peacetime production could now be attained—using the latest techniques—while leaving fifteen or twenty millions unemployed. Is that what veterans are in for?

Our industrial output grew enormously in the forty years between

1899 and 1939, but we were using only 47 workers per unit of output in the latter year, as compared with 100 in the former. Jobs for the other 53 workers had been annihilated. Despite shortened hours and work weeks, industrial productivity per man-hour tripled during the period mentioned. Output per worker doubled, due to technological advances. Fewer workers were employed fewer hours in 1929 than in 1919.

What was true of industry was also true of agriculture. Between 1900 and 1940 our farm output rose 60 percent, but farm employment per unit of output dropped almost one-half. By 1940, farm employment had declined 16 percent below the 1900 level, and the decline has increased, along with increased production, during the war years. Today the smallest farm work force in many years is producing record crops which will result in the horror of over-production tomorrow, unless industrial production is maintained at capacity.

What planned means have we of curbing monopoly, forcing capacity production for expanding peacetime consumption, making scientific adjustment to technological progress, financing increased consumption among low-income groups, and thus deriving peak economic and social service from our industrial and farm plants? Had we had a government agency which dared plan so constructively, it would have been abolished. The National Resources Planning Board, which was conservative in the extreme, was abolished.

The patent alternative is perpetual warfare.

It would require relatively little social conditioning, too, for us to adapt ourselves quite pleasantly to a life based squarely upon mass murder,

arson, and mayhem, rather than upon carefully camouflaged pressure exerted on the underprivileged, which produces slow death via malnutrition and neglect, along with poverty and squalor. To make life and science tolerable it looks as if we must resort to continuous warfare.

This sounds ridiculous or harsh merely because it is rational suggestion made in an irrational society. We naturally shy away from thinking realistically in such a society. But the idea marks no sharp deviation from the past behaviour of the human race. It has spent more years at war than it has at peace and its wars have always been for noble objectives. Those who have made war have always been honored and praised.

Human beings have never in their history seriously sought to avoid warfare.

The world's entire history has been one of blood and destruction in which religious motives have often proved most productive of belligerency.

While at peace man has so sabotaged technology for price maintenance that no nation has ever yet adequately fed its entire population, while more than two-thirds of the human race habitually faced destitution. Some more rational adjustment must be made if we are to utilize scientific knowledge efficiently. Shall it be perpetual warfare, or shall we use our brains and come by that adjustment the hard way, at peace?

Constructing Chaos

"... the whole construction industry has long been plagued with illegal trade restraints which keep prices high and resist the entrance of new processes and techniques."

been utilized in the home construction industry. The anti-trust division's activity in lumber, masonry, cement and

"Mass production methods have not plumbing has revealed the existence of flagrantly restrictive practices.

"These four items represent more than two-thirds of the cost for materials in an average house.

"Consumers have been forced to bear elements of 'phantom freight': products are distributed through a controlled system of jobbers selling at agreed-upon prices and building codes discriminate against cheaper and more efficient materials, such as prefabricated products."—Assistant Attorney General Wendell Berge in a release to the press quoted in the *Chicago Sun*, June 18, 1946.

* * *

In 1941, the 3,100 dental laboratories in the United States employed

15,250 dental technicians of whom
7,700 were drafted and replaced by
8,900 less efficient but now active
workers.

9,500 more dental technicians were
trained by the Army.

Making a total of
33,650 trained dental technicians for
only

16,000 jobs.

According to these figures, the field already has two trained workers for every job.—*Chicago Times*, February 2, 1945.

Between 1836 and 1943 there were 2,880,608 patents granted in the U. S. Great Britain granted only 1,401,221 in the same period. At the present time there is a backlog of 120,000 applications pending in the Patent Office. Cheer up, 'free enterprise' can't bury all of them.

From the Camera's Eyevew

Down on the Farm

Politics Proposes; Technology Disposes

The concept of the owner-operated, debt-free, family-type farm was brought to this Continent by early settlers. Leading men of the period, including Washington, Franklin and Jefferson, endorsed and gave it impetus. Ever since the U. S. has adhered to this ideal and the Government has sought to realize it by a long series of political prescriptions.

The Ordinances of 1784, 1785 and 1787 established the rectangular survey system and set up a pattern for land sales from the public domain. The Land Acts of 1796, 1800, 1820 and 1832 extended credit to settlers, reduced the price of land and gradually lowered the minimum amount purchasable to as low as 40 acres. The Preemption Act of 1841 recognized the rights of 'squatters' and permitted them to buy up to 160 acres. The Homestead Act of 1862 gave 160 acres of public land free to anyone who would settle on it. The Reclamation Act of 1902 specified that no one land owner could acquire water-rights for any tract in excess of 160 acres. The Federal Farm Loan Act of 1916 liberalized farm loans and reduced the cost of handling them. The Bankhead-Jones Farm Tenant Act of 1937 extended credit to tenant farmers qualified to become owner-operators. Besides these major political acts to set up an owner-operated, debt-free, family-type farm economy the Government has assisted farmers in numerous other ways through its various agencies.

The net end result of all these political prescriptions is now admitted to be approaching zero. The Potomac Grange Research Committee in its report dated October, 1945 states as follows: 'In spite of the long standing acceptance of the virtues of the owner-operated, debt-free, family farm, in spite of the Federal and State policies of the past designed to place the public domain in the hands of operators, and in spite of the more recently instituted land, credit, taxation and other tenure policies the trend has been away from rather than toward owner operation.'

The President's Committee on Farm Tenancy reported in 1937 that: 'For the past ten years the number of new tenants every year has been about 40,000.' Between 1910 and 1930 the total number of farms decreased by 75,000 but the number of tenants increased by 533,000. In 1880 only 25 percent of all farmers were tenants. By 1930 this figure had risen to 42.4 percent, then dropped to 38.7 in 1940. The Grange report points out that this drop in tenancy between 1930 and 1940 was caused primarily by tenants being 'frozen out of farming entirely rather than by progress toward the status of ownership.' In 1939 tenant farmers raised 40 percent of all the cropland harvested. Nor is the picture much prettier as regards the mortgage-debt situation among owner-operators. Between 1890 and 1940 the equity of owner-operators in the value of their farms decreased from 85 to 76 percent and the debt on mortgaged farms rose from 36 to 44 percent of their value. In 1940 of all farms owned in full 41.4 percent were mortgaged. (Continued on page 32.)

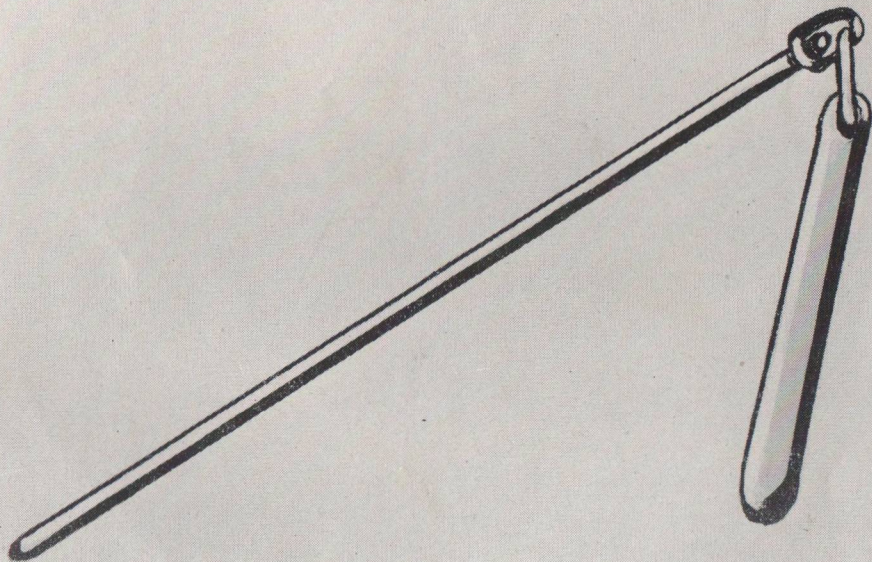


Photo: International Harvester Co.

The Flail, ancient symbol of the farmer's 'way of life.' In Colonial days grain was sown by hand and harvested with sickle, rake, fork and flail. A good man could thrash 25 bushels a day with a flail. The first steam thresher came in about 1830. Today the flail is in the museum, but the flail type of thinking still holds forth down on the farm. It belongs in the museum too.



Photo: International Harvester Co.

The scythe followed the sickle, then came the cradle as shown here. A good man could cut 3 acres of wheat a day with this device invented about 1780. This three-man crew cut about 9 acres a day. In the first years of the Republic agriculture was carried on with the techniques of 3,000 years ago. The first reaping machine was invented about 1831. That's when the so-called 'farm problem' began.

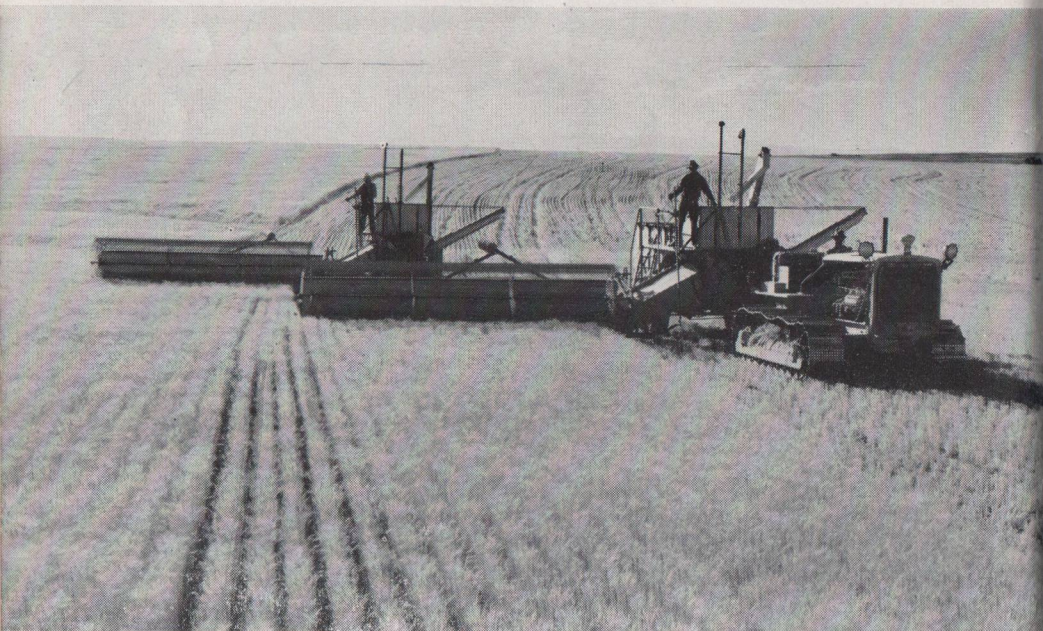


Photo: Caterpillar Tractor Co.

Another 3-man crew, no stronger, no braver, no brainier than the above. But, there's a big difference, something new has been added. This Diesel D-8 tractor pulls two 20' combines that not only cut but also thresh 210 acres a day. The difference is Power and Technology. Our social thinking must take the same route. The problems of today can't be solved with the tools of yesterday.



Photo: Farm Security Administration

Planting corn by hand on a plantation. A good woman could plant about 5 acres a day. U. S. has about 20,000 plantations. The Grange report says: 'They have not attained a high level of operating efficiency and they are characterized by very low standards of living.' Reason; human labor can't compete with technology. The Civil War proved that. Human toil is slavery to pro-fascism.



Photo: Caterpillar Tractor Co.

Here's a Diesel RD8 pulling 60' drills planting wheat at the rate of 20 acres an hour at a cost of 2 man-hours of labor and 25c worth of fuel per hour. This is on a large scale farm. The Grange Report says of this type of farm: 'It is possible under such an arrangement to apply modern scientific practices to every phase of production and marketing.' That's the only road to abundance.



Photo: Farm Security Administration

White tenant farmer and family hoeing cotton. The best they can hoe is a few acres a day. Without mechanization a family like this can grow no more than 10 to 30 acres of cotton and other crops. With machines a family can take care of 200 acres of cotton. The yoke of the past weighs heavily on this family-type farm. Their living standard is geared down to their power output.



Photo: Bureau of Agricultural Chemistry

One man cultivating corn on this large scale farm with a rotary hoe assembly can hoe up to 100 acres a day. Rotary hoes are used in cotton also but not on 20 acre farms. The family-type farm is doomed to change into the tractor-type farm. The bigger the better. Feudal agrarian methods cannot solve America's 'farm problem' nor produce an abundance of food and industrial products.



Photo: Farm Security Administration

Husking corn by hand. This is a he man's job. A good man in good corn can pick 100 bushels a day. Corn husking starts after the first frost. Corn is a native American cereal and the most important basic food in the country. Beef, pork, chicken, milk, butter, eggs, etc., consist partly of corn. Corn also has many valuable by-products which are mostly wasted by free enterprise, family farming.

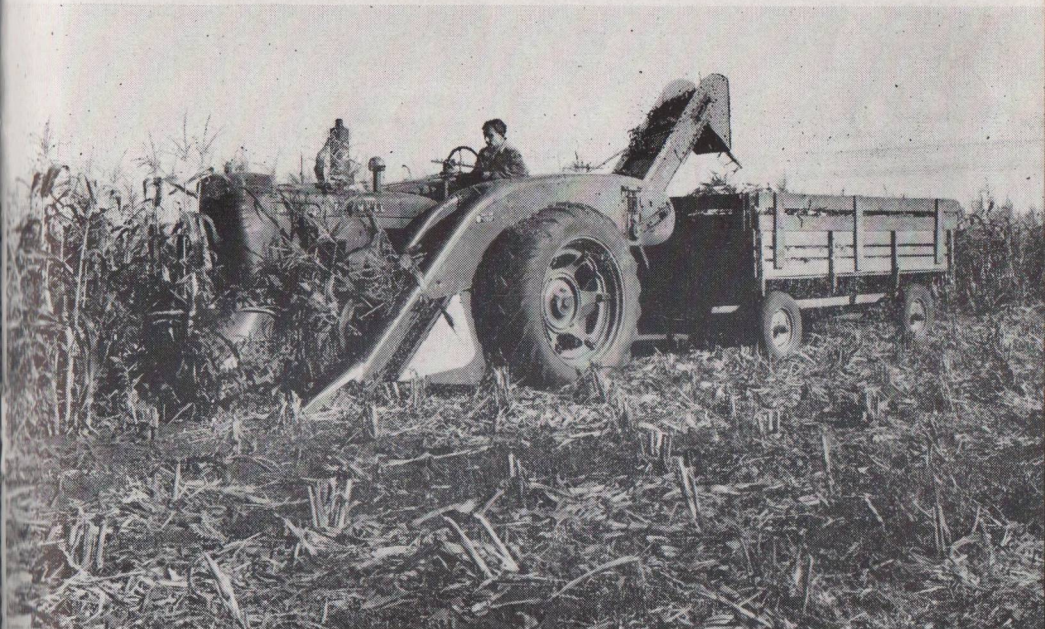


Photo: International Harvester Co.

This one-man, two-row, cut-off corn harvester is the most advanced machine of its type. It will husk 800 or more bushels a day, shred the stalks and deliver them to the ground. This eliminates 95 per cent of corn borers and restores humus to the soil. Shell and ear corn loss is sharply reduced. The assembly mounts on a large tractor. No horses, no toil, but plenty of technology, that's the stuff.



Photo: Farm Security Administration

Back to the farmer's 'way of life.' A good man and three good horses can plow about 10 acres a day. Farmers have been die-hard opponents of new methods. They refused to use the first iron plow developed in 1797 because they said the iron would POISON the soil. But, 'Them there new-fangled ways' just wouldn't stop coming. Social change decrees scientific agriculture today. Let's go, John!

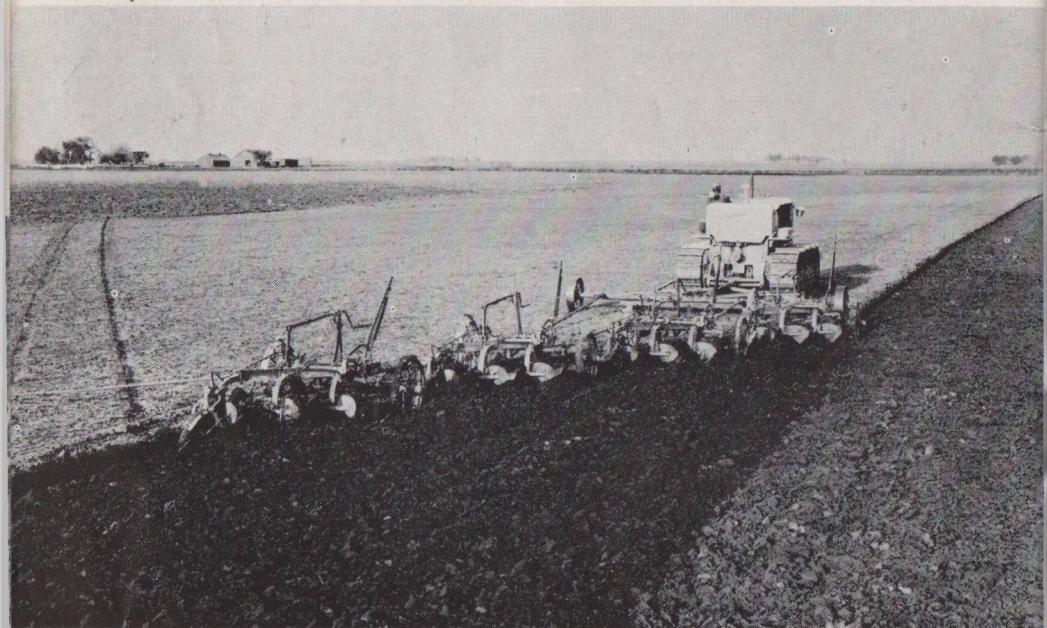


Photo: Caterpillar Tractor Co.

Large scale operations and efficiency. A Diesel D8 tractor pulling four assemblies of 18' plows, covering $7\frac{1}{2}$ acres per hour at a cost of 1 man-hour of labor and 5 gallons of fuel. No horses, no toil, no die-hard resistance to new methods, no farmer's 'way of life,' but a technological method of operations for maximum production at minimum cost. Here is the pattern to follow.



Photo: Soil Conservation Service

An Iowa farm showing the land being properly utilized. Dr. H. H. Bennet, Chief of the Soil Conservation Service wrote: 'The plain truth is that Americans have never learned to love the land and to regard it as an enduring resource. They have seen it only as a field for exploitation and a source of immediate financial return.' Well said, but what else can you expect under the Price System?



Photo: Soil Conservation Service

Abandoned farm in the dust bowl. Here is the logical end of free enterprise, family farming. This type of operations has been going on for thousands of years all over the world and has caused the downfall of many cultures. Accelerated erosion by wind and water and soil exhaustion, all caused by this 'way of life' has ruined 20 per cent and badly damaged another 30 per cent of America's farm land.

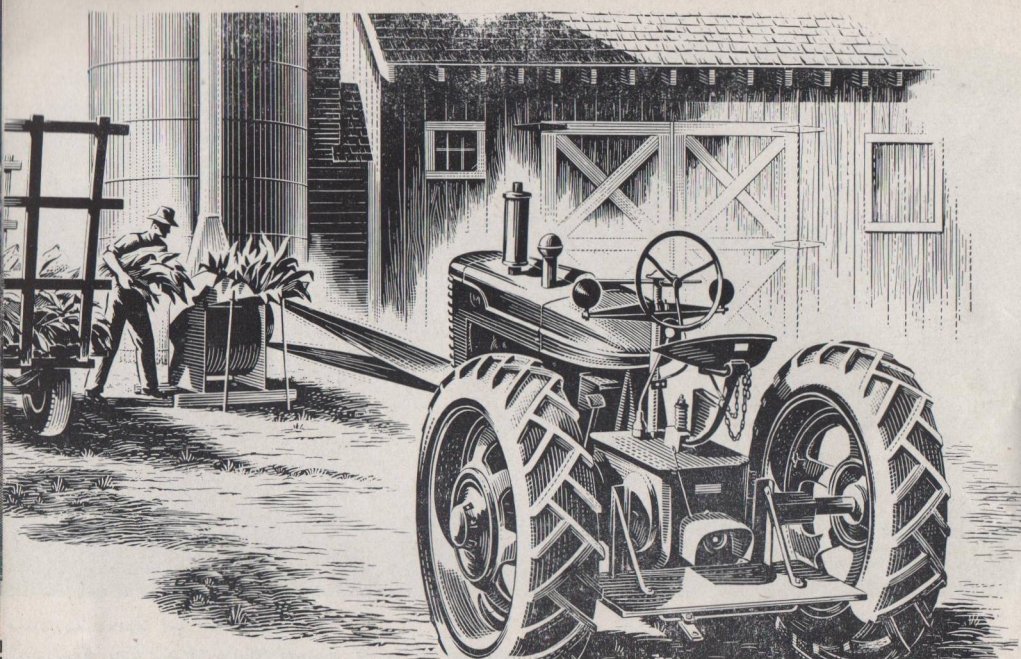


Photo: Ethyl Corporation

The tractor, modern symbol of scientific agriculture. The all-purpose, wheel type, gasoline tractor is a mobile power plant for plowing, other field work, grinding, sawing, filling silos, etc. It came in about 1905 and only 40 years later there are over 2,000,000 in use. Technology dooms the farmer's ancient 'way of life.' It dictates a better way with new social controls. 'Hurry.'

(Continued from Page 25)

Family-Type or Tractor-Type

The most significant aspect of the entire farm picture is the trend toward larger farms. In 1850 there were 1,500,000 farms and the average size was 202.6 acres. With the expansion accompanying the Civil War and the opening of The West the number of farms increased rapidly. However, the average size decreased and by 1880 had reached 134 acres. Then it started to climb. By 1920 there were 6,448,000 farms and the average size was 148 acres. During the depression of the 30's there was a temporary increase in the number of farms but from 1920 on the trend was downward. By 1940 the number had declined to 6,096,799 but the average size increased to 174 acres. In 1945 the number of farms declined further to 6,010,572 but the average size rose to 191 acres. Census figures show that the number of farms in every size group (except less than 20 acres) under 260 acres have been falling since 1910; while the number in every size group over 260 acres has been rising. In 1920 there were 67,000 farms of over 1000 acres or more. In 1940 there were over 100,000 in this group.

Thus, after 160 years of political 'fixing' we have the following condition. About 40 percent of all farmers are tenants with little or no equity in equipment, land or buildings. Of the 60 percent about 10 percent are part owners with 54.7 percent of them under mortgages and the remaining 50 percent are full owners, with 41.4 percent also mortgaged. In 1939 the top 2,000,000 farms marketed 84 percent of all farm products sold, the middle 2,000,000 about 13 percent and the bottom 2,000,000 only 3 percent. About 80 percent of all farms netted incomes of less than \$1500 per year in 1939. Of all the cropland harvested in 1940 over 40 percent was raised by the 723,012 farms over 260 acres in size, and it required the other 5,373,787 farms under 260 acres to raise the other 60 percent. Also, 10 percent of the total was raised by the 100,531 large-scale farms of 1000 acres and over.

What has become of the owner-operated, debt-free, family-type farm economy that we have idealized for 160 years. Answer: It's gone with the wind of technology. Since 1850 the productivity of farm workers has increased at very nearly the same rate as that of industrial workers. This fact gives us the key to the 'farm problem.' It points out that it is not a farm problem at all but a technological problem. Politicians are now proposing to apply graduated land taxes to break up large holdings and to revise inheritance laws for the same purpose. One would think that 160 years of political futility would be enough but the stupidity of Price System operations apparently knows no limits. Farming is no longer a separate way of life. It is now a sequence of industrial production and an integral part of America's technological structure. If we approach the problem from that angle, it will yield. Technology, decrees a tractor-type, highly mechanized, scientific agro-biotechnological type of agricultural operation. It's the only way to produce and distribute abundance for all, including the farmer himself.

From Here on Out

Keep Your Eye On The Trends

by R. F. Novalis

Increasing Trends..		All-Time LOW	Latest HIGH Figures*
1. DEBT (U. S. Govt.) per person.....	January 1, 1840	\$0.21	1,960 Dollars
2. ENFORCED LEISURE (unemployment.....)	October 1944	—630,000	2,530,000 People
3. MACHINE TOOLS in use** (cumulative total).....	1925	700,000	1,823,800 Machines
4. BANK LIQUIDITY (percent deposits to reserves, Federal Reserve Banks).....	1921	60.0%	98%
5. GOVT. (U. S.) BONDS to total bank invest- ments (Federal Reserve Banks).....	1929	39.0%	93½%
6. GOVT. (U. S.) BONDS to total life insurance investments	1915	.0005%	64%

Decreasing Trends	All-Time HIGH	Latest LOW Figures*
1. PRODUCTION (combined factory-mine-railroad freight) Index basis 1919-20 monthly averages equal 100	Oct.-Nov. 1943—250	139.
2. MAN-HOURS WORKED (total of man-hours in factory-mine-railroad) (Note: 1919-20 monthly average was 2.54 billion) Actual number.....	Oct.-Nov. 1943 3.14 billion	2.27 billion
3. MAN-HOURS PER UNIT in above industries, combined average	1919-20—100	44
4. ENFORCED SCARCITY (load factor on installed capacity of above industries)	No Figures	18%
5. INTEREST RATES (combined average yield on Govt.-municipal-corporate bonds)	1919-20 6.12%	1.70%
6. OSCILLATION DOWNWARD of factory output since all-time peak (Oct.-Nov. 1943).....		35%

*March-April, 1946, 1946, Two-month Average.

** No figures available on number of machine tools scrapped

Ed. Note: See January-February "Great Lakes Technocrat" for detailed explanation of this table

Full Employment on Paper

Only about half of the approximately 12,000,000 returned veterans have been absorbed into industry. About 2,000,000 are in the "52-20 Club," that is, they are drawing \$20 a week for 52 weeks as non-working veterans. About 4,000,000 are going to school under the G. I. Education plan. These 6,000,000 persons are not counted in the unemployed army. That's why we have only 3,000,000 listed as unemployed now. Figure it out for yourself. Are these 6,000,000 producing? Then add 6,000,000 and 3,000,000 and see what you get. It's a swell start for

the last and final depression (we hope) that good old 'free enterprise' will ever be permitted to impose upon America.

There were 160 mechanical sugar beet harvesters at work in California in 1945. The number will reach 360 in 1946. 'Three man-hours with one of these machines will do the work of 45 man-hours with hand labor.' (*Wall Street Journal*, April 2, 1946.)

Primer of Technocracy

Let There Be—Scarcity

By Louis Verhovic, 8141-15

'Over The Bounding Main'

OUR ancestors came here with the languages, customs, folklore, politics and economics of a time-troubled European Continent. They brought over the age-old concepts and precepts that had been accumulated through an aeon of gradual development. Through thousands of years, while Europe fought and plundered, one nation against another, man progressed constantly but slowly in his struggle for existence and advancement against a stubborn environment. His greatest threat to his existence was his ignorance of the factors that were involved in his very existence. The discovery of coal was one example of advancing human society toward a greater ultimate. His constant goal was for security. His constant search was for silks, spices, minerals, fuels, or food which a low energy civilization required to replenish a constant scarcity.

According to our historians, Great Eras lived and flourished. They love to tell and retell of the 'Glory that was Greece,' etc. At the height of all these 'glories' and 'grandeurs' there was not even one mechanism as complicated as today's simplest sewing machine, fountain pen or cigarette lighter. The sweeping legions of Attila the Hun or Genghis Khan could easily have been wiped out by a single regiment of modern mechanized cavalry. All the land and gold, stolen by the great Khan, or all the territory conquered by the Little Corporal could not gain for either of them the simplest reciprocating engine. The

greatness of past civilizations exists only in the minds of men.

Today, there is a real greatness potential in American civilization. Science, technology and energy have advanced mankind far beyond the hand tools of centuries of agrarian development. They have conceived a civilization of riches, power and culture far beyond the greatest attainments of the past. Past empires were built upon millions of slaves, sometimes called peasants and sometimes referred to as chattels. They were born and raised, fought and died for the greater glory and aggrandizement of their Aristocracy. Poets, bards and historians wrote much about the aristocrats but little about the slaves. Advancement continued, however, with peoples everywhere subconsciously resenting the limitations which the scarcity-controlled economies of the world inflicted upon their existence. In constant endeavor for an ever larger share of wealth, individuals kept striving for and seeking new fields of exploitation. They tried to find a way out.

The Course of Empire

And so it came about that America was discovered; not because of its political or democratic potential, but as an expression of man's greed and need. Columbus may have been convinced that the earth was round, but he did not sail the uncharted ocean to prove his contention. He was in search of a westerly route to the Indies. There he could find wealth in spices, jewels, gold, silks and the like.

Instead, he discovered America. What a bitter disappointment to have discovered a Continent that was rich in timber, oils, minerals and food, instead of a Continent where gold could be plucked off trees like apples! The archives of Spain collected dust on the records of Columbus' discovery since it was of no practical importance then.

The succeeding groups of people that settled and pioneered this Continent bore living evidence that the most important consideration America could grant its trespassers was to supply them with its limitless hoard of resources. People who settled the land gorged themselves with the wealth of the Continent, robbing nature and their fellow man to attain a greater share of that Continent's wealth. The more astute and ruthless hogged control. Man carried on with his age-old concepts of wealth in terms of gold; power in terms of slaves. A few centuries passed. The Industrial Revolution came. Technology developed. The Civil War came, and a great hullabaloo was made about freeing the slaves. Technology developed some more. The Frontier was opened, settled, and closed. The Twentieth Century dawned, and North America found itself, all unwittingly, in the Age of Power.

The same type of people, with the same ideas and concepts, find themselves in control of a huge machine. Many of them don't realize that the change has occurred. They take it for granted, as the change was rather unnoticeable. The Age of Power has crept up on us within the period of our own lifetime. Compare it for yourself. From the stone age on down to the Revolutionary War, man's greatest mass production ability to kill off his fellow-man in time

of war was probably with the use of the catapult or with burning oil. Very few could be incapacitated by the use of these primitive weapons. At the time of the Revolutionary War, gunpowder was used but the weapons were very inefficient. The machine gun and the trench mortar were unheard of. Man's conquest of technology and energy was yet to come to its prime. An accelerated tempo was reached as science learned how to harness energy and develop new technology. An era of development passed in America, and we discovered the powers of jet propulsion, rockets, atomic energy, etc.

'Abundance Haunts Me'

Philosophers of all the ages have dreamed, have spoken of, and written of a Utopian world of abundance. This, although an excellent method of idling away time, was based upon nothing more stable than wishful thinking. Until technology was used, it was impossible to have a high standard of living for a large number of human beings. This is due to the fact that without the use of extraneous energy it is impossible for humans to step up the time rate of doing work beyond the capacity of the human engine. Consequently, in a low-energy state, there cannot be anything but a low standard of living for the bulk of the population. The use of extraneous energy and technology have granted us the potential abundance with which we are now faced. Paradoxically, however, the only thing we can do with abundance under the Price System is to destroy it.

For thousands of years in scarcity economies, people have starved to death. It is one of the payments nature extracts when a low-energy converting nation attempts to maintain

an excessively large population. People have starved, and people will starve, as long as and wherever there is scarcity, whether it is natural or artificially enforced.

In the attempt to sabotage our own destiny (an abundant New America), our political leaders are giving away the productive results of our technology. Technocracy does not object to helping other peoples. It points out that it is national sabotage to give away our national heritage in order to maintain a Price System which enforces artificial scarcity at home.

Our ancestors brought with them concepts of price and values, and instituted a scarcity designed economic system. Americans, however, are responsible for making America a nation of potential abundance, such abundance as old-world philosophers never even dreamed of. Yet to maintain the old outmoded Price System,

Americans are being penalized. The potential greatness of this Continent and the abundance inherent therein cannot be achieved as long as we continue to operate under this scarcity enforced Price System.

A host of misfortunes only lie in store for us if scarcity is maintained. All of these myriad of misfortunes could be avoided by the application of science and technology to production and distribution. This is the proposal of Technocracy, backed up with a design of operating such a culture of abundance.

The uninterrupted application of science and technology to production and distribution will achieve the *real* greatness potential in American civilization. This is not for the glory of future historians, but for our own present, individual, and collective, General Welfare.

American Story

Robert Fulton did not invent the steamboat and John Ericsson did not invent the screw propeller. Both were invented and successfully used by John Fitch, the steamboat 20 years before Fulton and the screw propeller almost 50 years before Ericsson. John Fitch was born at East Windsor, Conn., January 21, 1743. He manufactured arms during the Revolutionary War. In 1786 he built a steamboat that ran eight miles an hour. In 1788 a company was organized. He built a steamboat for it that ran on the Delaware River for two years. Fitch built five steamboats, one with a screw propeller. His company failed; he could not raise any more capital; his work was ridiculed. Discouraged at the age of 55, he died penniless in Bardstown, Kentucky, July 2, 1798.

In the last quarter of 1945 there were 121 corporation mergers wherein small firms were absorbed by larger ones. This is the largest number of mergers in any quarter since 1931. In the first quarter of 1946 the number of mergers declined, due to seasonal reasons, but still was a third higher than in the first quarter of 1945. The trend is most pronounced in drugs and pharmaceuticals, textiles, metal producing and fabricating, alcoholic distilling, dairying and paper mills. (From a statement by Secretary of Commerce, Wallace, in the *Chicago Sun*, June 26, 1946)

There have been 35,800,000 tons of steel exported off the Continent in the last five years. (*Steel Facts*, June 1946).

Technocracy and Your Trade

The Molder and Foundry Worker

By Organization Division, 8741-1

Types of Foundries

Foundry fabrication is a basic process in metal operations, distinct from machining, forging, stamping and other methods of working metal. It is a process of casting metal, that is, pouring it while in a molten state into molds where it cools and solidifies to form the finished part. Metal castings are made in many shapes and in sizes from several ounces to many tons. Among the uses to which castings are put are 'automotive cylinder blocks, farm-machinery gears, railway-car wheels, locomotive frames, ship propellers, bearings, valve bodies, machine tool beds, ingot molds, water mains, bathtubs, radiators, washing machine agitators and kitchen utensils.'

Casting is applicable to ferrous and non-ferrous metals. Among them are cast iron, cast steel, malleable iron, copper, aluminum, magnesium, lead, zinc, tin, nickel and alloys such as brass and bronze. There are two general kinds of foundry operations, the jobbing and the production method. Jobbing operations specialize in castings sold to other plants for incorporation in their product. In this type of operation a limited number of castings are made from one design and hand methods predominate. In production casting large numbers of castings are made from each design and machine methods predominate. Jobbing foundries are carried on as 'independent' enterprises. Production foundries are usually a department of

mass production industries. They are called 'captive' foundries. Employment in captive foundries is usually included in the employment statistics of the parent company. For this reason it is impossible to tell exactly the number of workers in all foundry operations. The Bureau of Labor Statistics reports that: 'The production of gray-iron castings is greater than the combined total of all other types. Next, in order, in total weight of castings produced, are steel, malleable iron and non-ferrous metal castings.'

Dispersal of Employment

In 1939 the 1161 'independent' gray-iron foundries (of which there is one or more in every state except Wyoming) employed 58,428 workers. About 70 percent of these foundries, or 818, had less than 51 production workers each. Only 4 had over 500 workers each. And 79 percent of the total employment, or 46,000 workers, were engaged in foundries having fewer than 250 workers each. Gray-iron foundries are typical small production units where skill and hand methods prevail. They are the happy hunting grounds of the skilled journeyman molder.

Independent foundries, producing non-ferrous castings, except aluminum, are also mostly small units. Of 600 establishments in 1939, almost 500 had fewer than 21 workers each and only 2 had more than 250 each. No data is available for aluminum foundries in 1939, perhaps because they are largely 'captive' foundries. Other

* This article deals principally with molders. A forthcoming article will take up other foundry occupations.

data used here is from the *Monthly Labor Review*.

Steel and malleable-iron foundries are generally larger than gray-iron foundries. In 1939 of 164 'independent' steel foundries, employing 30,088 workers, over half, or 17,200, worked in plants employing over 250 workers each. Two steel foundries had over 1,000 workers each and 11 employed between 500 and 1,000 each. In the 'independent' malleable castings group in 1939, out of 83 plants, 10,256 of the total employment of 18,041 workers was in the 23 establishments having over 250 workers each, and only 8 foundries used less than 50 workers each.

Hand Tools vs. Technology

In 1939 there was a total of 255,000 production workers in all foundries. Of this number 150,000, or almost three-fifths, were employed in gray-iron foundries. Thus in 1939, not only was the bulk of total foundry employment in gray-iron plants but the bulk of gray-iron jobs was scattered among small plants. This latter fact was also the case in non-ferrous foundries. However, in malleable iron and steel foundries the bulk of employment was concentrated in larger plants. These facts point to an unequal development of mechanization in the foundry industry as a whole, with a greater advance in steel and malleable-iron than in gray-iron and non-ferrous foundries.

Labor cost in all foundries runs from 30 to 50 percent of production costs. In the more mechanized malleable and steel foundries, labor costs approach the lower figure. In gray-iron foundries, they come nearer the higher figure. Castings as a whole, and especially gray-iron castings, have been a severe bottleneck all during reconversion. Foundry men have laid this to

the OPA, increased labor costs, increased cost of pig iron, shortage of labor, the steel strike, the coal strike and so on. The real reason for the inability of the casting industry to step up its production to meet demand is the fact that human toil, hand tools and skill still largely prevail. During the war this factor was submerged by the magic of cost-plus-operations. Now it's coming to the fore. It won't last much longer.

I Go to Prepare A Place For You

At the golden jubilee congress and exposition of the American Foundrymen's Association held in Cleveland during the week of May 7, 1946, foundry technology was on parade for the first time since 1940. Foundry equipment manufacturers bought more than 100,000 square feet of floor space in Cleveland's Public Auditorium to show casting makers the latest technology. New devices and processes by the score were shown off, each and every one designed to reduce unit labor costs and increase output per man-hour. A survey conducted by *Foundry*, trade journal of the industry, among the 5,048 foundries in the country showed that 61 percent of them will place orders for new and better equipment, aggregating \$1,000,000,000.00 in the next 12 months. The March 1946 sales index for new equipment produced by 28 large foundry equipment manufacturers stood at 577. Average monthly sales for 1937-1939 are calculated as being 100.

One Cleveland gray-iron casting maker, commenting on the orders for new equipment, said: 'There's no better evidence than that to show that we're headed for more modernization and mechanization. We've got to if we want to cut down production costs to pay higher prices for labor

and materials.' F. J. Wallis, of Detroit, president of the A.F.A., said: 'We've got to cut the drudgery out of foundry work and increase the unit productivity of our manpower.' Yes, Gentlemen, you are correct. More and better technology will solve your problems for you temporarily. What will come after that should not happen to a dog. But it will! For, technology is a categorical imperative. You have to install it or go out of business. The beauty of it is that once having started down the road which technology points out, you can't stop, and you cannot turn back.

I Push On Many Fronts

The introduction of more technology in the foundry industry is being forced by more than the present huge demand for castings. Technology in other fields is competing with foundry technology via alternative methods of fabricating metal into finished forms. Among these are welding and stamping. Weldments are more economical for small quantity production, and stamping results in lower costs for large quantities. Rising labor costs also force more technology into the casting industry. In each case where new equipment is introduced, productivity goes up and unit labor costs go down. This spells less total man-hours of labor. In addition, the skill of the journeyman molder is being displaced by machine methods. The Bureau of Labor Statistics says:

Particular attention is given to developments in molding in which technical progress has been especially significant. Mechanical aids to molding encompass a variety of devices which decrease both labor-time input and skill requirements.

Newer-Better-Faster

Among the newer processes requir-

ing less molding skill, speeding up production and cutting man-hours are machine die castings (in metal molds) for small non-ferrous parts. Then there's the permanent mold process for parts of many sizes. It also eliminates the need to prepare a sand mold for each casting. This method can be used wherever the melting point of the casting metal is lower than that of the mold itself. Since this is true in the case of gray-iron and since gray-iron castings comprise more than all other types put together, the permanent mold process augurs but ill for the time-honored skill of the journeyman molder. Investment or 'precision' casting, using the old 'lost wax' or plastic principle, is claimed to be a true mass production method by the Haynes Stellite Company. This company cast 2,100,000 turbo-supercharger buckets in the one month of April 1944 by this method. The process has been applied to a wide range of small parts. The Bureau of Labor Statistics says that precision casting 'reduces time and skill requirements in relation to sand casting.'

Centrifugal casting is another quantity production method coming into use. It can be applied to both ferrous and non-ferrous metals. Parts cast centrifugally are entirely free of air pockets. Of this development the Bureau of Labor Statistics says: 'This process provides a high rate of production.' In addition, centrifugal casting effects huge savings in metal used. The Illinois Precise Casting Company was allocated 40,000 pounds of steel for casting a quantity of small parts for mine detonators during the war. They did the job with 8,000 pounds of steel. Wartime Technological Developments, a report of the Senate Military Affairs subcommittee on war mobilization, published in May, 1945, describes 28 new devices and

processes in foundry technology. Since then there have been many more.

More With Less

Estimated production of gray-iron castings for 1946 and 1947 is in the neighborhood of 10,500,000 tons each year, as compared to 7,100,000 tons in 1939 and a little over 9,700,000 tons in 1944.

Production of malleable-iron castings is expected to rise about 25 percent above the 890,000 ton level of 1944. In 1939 production of malleables stood at 480,000 tons. In 1939 production of steel castings stood at 822,000 tons. In 1944 this rose to over 2,400,000 tons, and is expected to be around 1,600,000 tons in 1946 and 1947. Production of non-ferrous castings, except magnesium and aluminum, is expected to remain below the wartime peak, but far above the 1939 level. However, what about employment and the molder?

In 1939 there were an estimated 255,000 production workers in all foundries, both 'captive' and 'independent.' In 1944 this total rose to 425,000. Thus, wartime employment, at its peak, exceeded prewar employment by 170,000 jobs. Estimated employment in 1946 and 1947 is 365,000 jobs. This is a net drop of 60,000 jobs from the wartime peak. However, production is expected to remain near the wartime peak and in two major instances to surpass it.

In addition, the work week will be much shorter in this postwar period than it was during the war. Now, either those 60,000 lost jobs represent padded payrolls during the war or they sum up to a technological displacement of 60,000 workers. What if there was a net gain of 170,000 jobs between 1939 and 1944. The fact remains that over a third of them have since been eliminated while pro-

duction has remained at near the wartime level.

Man-Hours, Jobs, Wages

At this time we want to call attention to the fact that employment statistics in terms of numbers of jobs have very little meaning. What the boss buys and pays for, and what determines collective purchasing power, is the number of man-hours of labor used. If these figures on employment are correct, they show a net gain of 110,000 jobs in the foundry industry since 1939. Taking into consideration the shorter work week of today and the fact that technology is now again being turned loose after having been restricted for 5 years, there is no doubt that productive capacity in castings is now much greater than in 1939, with very few, if any, more man-hours of labor. When the data comes through, this will be found to be the case. The only way to produce more in this technological age is to work less.

Another Vanishing American

So far we haven't said much about molders. As a group they comprise about 30 percent of all foundry production workers. Molding is a skilled occupation. In 1940 about 8 percent of all molders were negroes. The Census Bureau lists about 75,000 molders at work in 1940. At the peak of wartime production, according to estimates of the Bureau of Labor Statistics, there were still only about 75,000 molders employed. Evidently, the wartime increase in castings production was not accomplished by human toil and hand tools. The number of journeymen molders dropped to a low point during the depression. Very few apprentices were trained. When the wartime need for molders arose, apprentice training was curtailed by the

draft. The Bureau of Labor Statistics says:

War-time expansion of foundry production, as well as the scarcity of qualified journeymen, gave impetus to this growth of machine molding, which has, in turn, augmented the supply of experienced machine molders.

In reality there are three kinds of molders: All-round hand molders (journeymen), less skilled hand molders, and machine molders. The skill of the journeyman is being displaced. However, many of them are able to become machine molders without any difficulty because of their all-around experience. The median age of the employed molding force in 1940 was 42 years and 15 percent of them were over 54 years of age. Thus, the hand molder is in the unenviable position of being a practitioner of an obsolescent trade. The Bureau of Labor Statistics says as follows:

Machine molders (in the sense of workers qualified only as operators of molding machines, and excluding journeymen working at machine molding) have been increasing in numbers over a period of many years, reflecting the substitution of machine molding for hand operations and the gradual break-down of skilled jobs into less-skilled specialties. . . . The impact of technological change will be greatest on the large groups of specialized hand molders trained during recent years. The types of molds made by these workers are most susceptible to the extension of machine molding and other mechanized methods. The trend toward greater use of machine molding, tending to increase the number of machine molding jobs, will be offset by improvements in machine molding which restrict employment gains by increasing output per worker.

Epilogue to Conflict

There you have it, Mr. Molder!

Technology has got you going and coming. If you lose your hand skills and take to machine work, then improvements in technology will reduce to a minimum the man-hours necessary. That is just where man-hours belong, i.e., at a minimum, for that is the only way to produce abundance. Don't blame the foundry operator or the foundry equipment manufacturer. They are driven by the same necessities as you are. This is the age of power and technology. We are just entering into it. It holds forth a certified guarantee of abundance, security and equal opportunity for all citizens. This is something that neither molder, foundry operator or foundry equipment manufacturer will ever be able to attain under the Price System, except in limited amounts and on perilous conditions. The impact of science and technology upon our ancient Price System social structure has invalidated all the old methods of operation.

Technology makes possible a new world in North America. It can be achieved now. To accomplish this we must view the social complex from a fresh, new, factual viewpoint. We must locate the underlying causes of social unbalance by analyzing the Operating rules of the Price System as they come into conflict with Science and Technology. Once having done this, it is easy to understand how we must reorganize our entire social system along engineering lines subject to scientific laws and technological methods of social control. There is no shortcut and no other solution to our social problems. We say OUR social problems because in this Age of Power, nearly all individual problems have become collective problems.

We have shown you what the trends are in the foundry industry. They are the same in all industries. There is no escape from these facts

and no going back to a happier, simpler age. The road points forward to the New America. There will be found the land of our heart's desire and there only. Backwards lies the hell of social fascism.

A New Concept of Citizenship

Technocracy is the only Body of Thought in North America which has made a special study of *American* social problems from the viewpoint of Science. The Organization of Technocracy is the only organized body of citizens in North America prepared and qualified to answer all your questions and resolve all your doubts.

It conducts free Study Classes to educate its members in the social aspects of Science and Technology. The problem has been analyzed and the correct solution worked out. It is available to all citizens. We urge you to join Technocracy and investigate the nature of the age in which we live.

This action on your part will not conflict with anything else you may belong to. Technocracy is non-political, non-profit and non-sectarian. After all, what can you lose by being a better informed citizen than the average smart sap who knows all the wrong answers! Think it over, and call on your friends, the Technocrats.

'Curiouser and Curiouser'

Life insurance funds invested in U. S. Government securities amounted to less than 50 cents per policy holder in 1900. In 1918 it reached \$17. In 1939 it zipped up to \$39; and in 1945 it reached \$289. They sure know a good hole when they see one, or maybe they just think it's a good hole. (Data from Institute of Life Insurance, as quoted in the *Chicago Sun*, June 10, 1946).

The Department of labor has revealed that during the recent strike wave more than 97 percent of all workers remained on the job. At the same time the Department of Commerce reported that during the strike period, and in spite of it, the physical volume of factory production was 10 percent higher than for the similar period of 1941. (Data quoted by *Labor*, July 6, 1946).

At the end of 1945 there were 11,200,000 bales of cotton and 850,000,000 pounds of wool in storage in the U. S.

It is estimated that 75 percent of the cost of a jewelled watch is represented by labor cost. The jewels in a 21 jewel watch cost only about 50 cents. Yet, it is the presence of this 50 cents worth of synthetic sapphire in jewelled watches that makes up the principal difference in their superiority over non-jewel timepieces. (*Wall Street Journal*, April 12, 1946.)

At this time there are 19,561 periodicals in the entire country. Just think what you're lucky enough to miss.

A Twentieth Century Fund report shows that there are approximately 175 thousand local taxing jurisdictions in the United States.

In 1920 there were 300 industrial laboratories in the U. S. with personnel of about 7,500. In 1940 the number of laboratories had increased to 2,350 and the personnel to 70,000. (*Business Week*, May 25, 1946.)

Technology Marches On

Invading on Many Fronts

By Research Division, 8741-1

Handling Materials

'Palletization' is the name of a new development in handling goods in warehousing and shipping. During the war the Armed Forces applied it extensively. It reduces the man-hours involved in hauling, pushing and lifting goods in transit to a minimum by mechanizing the process. The only manual labor used is that involved in loading the pallet with goods, in bags, bales or boxes, at the plant. After that a single worker, operating a forked truck, does all the handling and piling necessary. The *Wall Street Journal* reports as follows in its issue of April 8, 1946:

It involves the use of only two pieces of equipment. One piece is a square platform of double planking about 4 by 4 feet (4' x 4' square). The other piece of equipment is a type of industrial truck from which strong steel forks stick a couple of feet straight out in front. The truck moves up to the loaded pallet on the plant's floor, sticks its steel forks between the pallet's upper and lower planking, and carries the load into the waiting rail or motor carrier.

By means of an elevator attachment, the motorized trucks can stack the pallets up to a height of 12 feet. Similar forked trucks unload the pallets at the point of destination. After the initial loading, wherein the goods are strapped or glued together on the pallet, the need for labor power is eliminated. The *Wall Street Journal* says that one firm saved 'over \$300,000 in the first year of a materials handling program based on palletization.' Further economies are achieved in cost of packaging, pilfering, damages and more efficient use of warehouses and carrier space.

Domestic Commerce in its issue of April 1946 gives a concrete example of the difference between palletization and the old human labor method of handling loose cargo. The man-hours required to handle 100 tons of palletized cargo (77 pallet loads) is compared with the number required to handle the same amount of loose cargo (4080 separate packages). Figures used are based on studies conducted by materials handling officers in the Armed Forces.

Operation	Man-Hours Palletized	Man-hours Loose Cargo
Loading pallet at contractor's.....	15	0
Strapping pallet at contractor's.....	35	0
Loading car at contractor's.....	8	50
Unloading car at supply depot.....	9	24
Stowing at supply depot.....	9	30
Issuing at supply depot.....	6	30
Loading car at supply depot.....	8	50
Unloading car at shipside.....	9	24
Loading and stowing on ship.....	37	47
Unloading ship to dock.....	24	164

Loading truck at dock.....	8	54
Unloading truck at supply dump.....	9	57
Stowing at supply dump.....	9	39
Reloading at supply dump.....	8	55
Unloading at point of use.....	9	58

Net saving by palletization, 479 man-hours.

Ed Note: See bottom line of page 250 and on to end of second paragraph, page 251, *Technocracy Study Course Book*.

Back To What Farm?

William Silva, secretary-treasurer of the Muckland Celery Company, Sarasota, Florida, has developed a celery harvesting machine. A series of demonstrations held recently aroused keen interest among celery growers in that area. The *Jacksonville Journal*, Jacksonville, Florida, in its issue of April 10, 1946, reported as follows:

The harvesting machine straddles the row of celery, and two whirling disc cutters, hydraulically adjusted for depth, move below the surface of the ground and cut the roots. Another pair of cutters snips off the tops of the plant. It cuts 10 times as much celery as the hand-operated cutter and spoils only one-fifth as much. Farmers observing the demonstration report it produces a more uniform pack right on the field, and thus also saves time and labor in the packing plant, which has to trim much of the hand-cut celery.

'Buy Me Some Peanuts—'

At a recent meeting of the National Peanut Council, Secretary of Agriculture Anderson suggested that peanut growers have opportunities to increase production efficiency through increased mechanization. The U. S. Department of Agriculture Clip Sheet for July 7, 1946, quotes Secretary Anderson as follows:

A sheller has been perfected by our agricultural engineers which will shell as many peanuts in one hour

as 300 men can shell in that time. Our engineers have also developed a tractor-mounted, two-row harvester which digs, lifts, shakes, and wind-rows peanuts, all in a single operation. By hand methods it takes one man 32 hours to carry out these operations on an acre. The machine will harvest two acres an hour—the equivalent to a crew of 64 men. Peanut growers also have much to gain from greater use of cover crops, better crop rotations, and greater knowledge of plant food requirements.

You, Too, Texas?

F. O. Masten, Sudan, Texas, one of the largest farm operators in north-west Texas, has developed and demonstrated a self-driving tractor for plowing in large fields. The *Christian Science Monitor* for April 1, 1946, reports that: 'The feat is accomplished through use of a specially designed tractor guide to keep the machine in the furrow. One tractor can plow 25 acres in 24 hours. In its issue of April 13, 1946, *Labor* reports that 'one man "riding herd" on these tractors, can keep four of them operating at once.' On one 420 acre field, Masten cut the man-hours from 1180 to 35, and labor costs from \$590 to \$17.50.

Ed. Note: See *Technocracy Study Course*, bottom of page 256 to top of page 261.

Service Trades Catch It Too

There are about 70,000 bowling alleys in the U. S. Each one employs one and more pin boys on a part-time

basis. Pay usually runs from around 9 to 12 cents a game for pinsetters. On an average about 7 games per hour are rolled in league competition. So, pinsetters have been making about 65 to 75 cents per hour—when they worked. This won't be for much longer, however, except in small bowling alleys. The reason is that an automatic pinsetter has been developed, and is going into production.

The automatic pinspotter was invented by Fred J. Schmidt of Pearl River, N. Y., in 1936. In 1937 the American Machine and Foundry Company took it over. They spent nine years developing the bugs out of it. The machine was demonstrated in use at the American Bowling Congress last March in Buffalo, N. Y., and did not jam once during the entire tournament. The device works with two sets of pins and has many parts, but its sequence of operations is said to be relatively simple.

When a rolled ball falls into the pit at the end of the alley, a motor-driven mechanism is actuated. The ball is hoisted onto a return runway, the pins left standing are lifted out of the way by means of suction cups, and a sweep

pushes the fallen pins into the pit. The lifted pins are then relowered back into position. After a ten-strike, or the second ball, the alley is swept clean and a second set of pins lowered into place. Meanwhile, the fallen pins from the first set are carried to the top of the machine by a conveyer and placed into position for use again.

This automatic process goes on as long as any one is bowling. The rate of operation is up to $8\frac{1}{2}$ games per hour, as compared to about 7 for a human pin boy. The pin machine can be installed on any standard alley without need for any alterations. *Business Week*, February 23, 1946, reports that the machines are 'designed to cost the alley proprietor less than he pays his pin boys.' They will be leased on a rental basis of about 8 cents per game. The 15 to 20 million bowling fans in the U. S. can sleep better now. Their sport will not be handicapped by a shortage of alley help. Technology is invading the service trades too.

Ed. Note: See the last paragraph of *A Thermodynamic Interpretation of Social Phenomena*.

You're Getting Hot, Professor'

"Nothing tends so much to the advancement of knowledge as the application of a new instrument. The native intellectual powers of men in different times are not so much the causes of the different success of their labours, as the peculiar nature of the means and artificial resources in their possession."—Sir Humphrey Davy, English chemist (1778-1829) (as quoted in *The Spirit of Chemistry* by Alexander Findlay).

'Uranium, now the most valuable of elements, is suggested by Dr. Farrington Daniels of the University of Chicago as a substitute for the gold basis of our monetary system. Writing in the "Chemical and Engineering News," Dr. Daniels pointed out that because a given amount of uranium has a definite amount of energy, it would be free from price fluctuation.' (*Chicago Daily News*, June 27, 1946).

Each in His Own Tongue

By Publications Division, 8741-1

Voice of The Price System

A la Shotgun Wedding

Under our present technological advancement, it is no longer a question of how efficient we can design products, but *how efficiently we can afford to design them.*

Walter E. Johnson, President of Industrial Engineer's Association, in his introductory remarks at the opening session of the Management Panels of the Chicago Technical Societies Council's 'Production Show and Conference' held at the Stevens Hotel, March 20, 1946. (As quoted by the *Industrial Engineering Analyst*, May, 1946.)

Technology Is Only A Word

We're not worried for fear that men in the \$25,000 to \$50,000 a year income brackets will be standing in any breadlines. We're worried because other people will be in breadlines if these highly paid executives have no incentive to go back to work.

They're the men who have the creative ideas, who expand their businesses and make more jobs, who keep production at high levels. Without them, employment drops, production drops and you're headed for trouble.

Charles E. Brokaw, head of the Incentive Division of the Department of Commerce. (As quoted in a story on incentive studies in the *Wall Street Journal*, May 6, 1946.)

Political Pot and Kettle

The responsibility for the new confusion which exists in America

today must rest with the President, who has refused Congress' program for an orderly transition of our national economy from bureaucratic dictatorship to the proved American system of free enterprise.

Dwight H. Green, Republican Governor of Illinois, in a telegram to Mayor Edward J. Kelly of Chicago, in response to appeals from state leaders and consumer groups to protect the people from inflated rents and prices. (As quoted by the *New York Times*, July 7, 1946.)

Essence of 'Free Enterprise'

I think poor people belong in the poor house.

George W. West, in an official statement in his capacity as official witness for the United States Chamber of Commerce, before the House Committee on Expenditures in the executive department. The statement was made in response to a question by Congressman Walter H. Judd (Rep. Minn.), asking Mr. West what he thought would happen to American families who need housing but cannot afford it because of low wages. (As quoted by *Labor*, June 15, 1946.)

All Men Are Born Free and Equal

We'll put up ticket stations just fifty feet inside the Georgia line. . . . The people will have to get out of the buses and buy another ticket. They can ride across the Florida line, get out and get another ticket. If I'm Governor there won't be any mixing of the races.

Eugene Talmadge, candidate for Gov-

ernor of Georgia, in a campaign speech at Cartersville, Georgia, in defiance of the U. S. Supreme Court's ruling against Jim Crowism on interstate buses. (As quoted in the *New York Times*, June 9, 1946.)

Draw Your Own Confusion

We people of the South must draw the color line tighter and tighter, for the white man is the custodian of the Gospel of Jesus Christ.

United States Senator Theodore G. Bilbo (Dem. Miss.) in a campaign address for reelection. (As quoted by Milton Lehman in an article in the *Saturday Evening Post*, June 29, 1946.)

Now We Know For Sure

Of course my amendment was drawn up by the Automobile Dealers' Association. Who do you think

writes amendments around here?

Congressman Fred L. Crawford (Rep. Mich.) to a group of reporters in regard to the origin of the Crawford amendment to the OPA, which sought to forbid the OPA 'to reduce established retail trade discounts or dealer handling charges.' (As quoted in the column *Inside Washington* by the Washington Bureau of the *Chicago Sun*, May 21, 1946.)

2 plus 2 equals Zero

... the mere fact that social legislation meets the social needs and responds to social demands is of itself not a strong enough reason to merit the support of a Catholic.

From a statement by the National Catholic Welfare Council, on February 28, 1946, in opposition to a bill with social medicine provisions. (As quoted by the *Converted Catholic*, June 1946.)

Voice Of Technology

But, There's The Price System

Man's productivity is no longer measured by the hours he works but by the capacity and efficiency of the machines he operates.

Robert L. Taylor, Editor, in *Chemical Industries*, May 1946.

Getting Fed Up

After 32 years in Congress I find this thing called general debate is the greatest farce in the world. Yesterday I counted two Republicans and six Democrats in their places and I'll be damned if I am going to argue against empty seats.

Representative Charles A. Eaton (Rep. N. J.) in a Congressional speech on

the loan to Britain. (As quoted by the *Chicago Sun*, July 10, 1946.)

What Goes Up, Comes Down

The average labor costs in automotive plants is 40 percent over that paid in 1941, therefore the problem is to manufacture passenger units with 40 percent less labor put in them.

William B. Stout, automobile designer, summarizing one of the conclusions reached at the Spring conference of the Society of Automotive Engineers held at French Lick, Indiana, the first week of June, 1946. (As quoted by the *New York Times*, June 9, 1946.)

Grandpappy Didn't Know Best

The worship of the dead may become a dignified religion, but its merits consist only in holding the gains ancestors have made; it cannot possibly lead to new and better ways. The ancestor worshiper keeps his eyes directed toward the past; forward-looking is not one of his traits or virtues. He is conspicuously present in this land of boasted freedom and progress. The fathers of the Constitution of our government and of our social order are regarded by some of their worshipers as being beyond criticism and as having given us institutions that cannot be improved. Such a view is barbarous and the fact that it is so largely held accounts for most of our serious failures to bring our law courts and other institutions abreast of our science and invention.

J. E. Pearce, Professor of Anthropology, University of Texas, in an anthropological paper titled 'Tales That Dead Men Tell' published in the University of Texas Bulletin, October 1, 1935.

The Status Is Still Quo

The whole body of our laws as at present framed is ridiculous and obsolete. They are designed always to uphold capital at the expense of the community. I realized soon after I took office that to fight privilege under the present laws would be a jest. The cards were stacked in its favor from the start; the dice were loaded, and are loaded against the community. Capital says that today there is equal opportunity for all. In this capital lies and knows it.

The late Capt. Joseph Medill Patterson, owner of the *New York Daily News* in a letter of resignation written to Mayor Edward F. Dunne of Chicago in 1906; upon the occasion of

Mr. Patterson's resignation as commissioner of public works of Chicago. (As quoted in Kup's column in the *Chicago Times*, May 28, 1946.)

Counter-Revolutionary Program

The drive to put religious instruction of some kind into the public schools intensifies. Naturally it meets with approval from those who are fearful of the future and anxious to anchor society in its ways or turn it backward in its views that their own operations may go unimpeded.

Porter Sargent, noted educational leader, in his book 'The Continuing Battle for the Control of the Mind of Youth.' (As quoted in the *Peoples Lobby Bulletin*, May, 1946.)

Render Unto Caesar

The Roman Catholic Church insists upon being a church and a state. How can an American citizen be at once loyal to his own country and his President and also loyal to another political state and its political ruler, if the two states differ in international policy? Is it not better for a church to be a church and not try to be a church and state.

Dr. G. Bromley Oxnam, Methodist Bishop of New York, in a statement to the press. (As quoted in the *Chicago Daily News*, June 13, 1946.)

Moguls

A Hollywood producer received a story entitled, "The Optimist." He called his staff together and said: "Gentlemen, this title must be changed to something simpler. We're intelligent and know what an optimist is, but how many of those morons who'll see the picture will know he's an eye doctor?"

So Wags the World

Fascism and Anti-Fascism

By Research Staff, Great Lakes Technocrat

North America

United States

The House judiciary committee recently released a report drawn up by Rep. Francis E. Walter (Dem. Pa.). It reveals the tie-up between German fascism and American corporations; how it was arranged before the war began in 1939; and the legal obstacle which prevents this tie-up from being unmasked in the U.S.A. The story, so far revealed, goes something like this.

On March 17, 1939, the legal staff of I. G. Farbenindustrie, German chemical trust, held a meeting to discuss ways and means to conceal the foreign assets of the trust. This was six months before the triple oligarchy of European fascism (corporate enterprise, clericalism and the political state) launched World War No. 2. Minutes of this meeting reveal that it was decided the best way to hide their foreign assets would be to set up, or turn their assets over to, sham neutral corporations. A letter dated October 5, 1939, from I. G. Farben to the German ministry of economics, reveals that the plans had been 'discussed' with Standard Oil Company. It went on to explain how the 'dummy' plan would work.

In this way patents in enemy territory which today are no longer at our disposal are placed in the hands of a large and indisputably neutral undertaking, but with which we are connected by manifold interests, so that at the end of the war . . . it makes no difference what position the United States takes . . . friendly cooperation will again result.

Thus, over two years before the U. S. and Germany went to war, Germany was getting ready for it by concealing her assets in this country, with the assistance of American corporate enterprise.

The war came off, as planned, and during it the U. S. Government seized millions of dollars worth of German assets in spite of their attempted concealment. After the invasion of Germany, Allied occupation authorities seized numerous authentic documents proving the international tie-up between foreign fascism and American pro-fascism. Among them are the documents mentioned here. The House Judiciary Committee and the Justice Department have many others in their files.

Now the war is over and the 'dummy' pro-fascist corporations who attempted to sell America down the river of world fascism by helping to conceal enemy assets are making strenuous efforts to regain possession of those assets on behalf of their foreign associates. Rep. Walter of the judiciary committee states that the Justice Department is fearful they may be successful. The reason is that the rules of evidence of Federal Courts bar the use of foreign documents as competent evidence. Apparently, witnesses must be brought in person before the court. The committee's report approved a bill at present in the congressional hopper that would change the rules so as to admit the documents in evidence. It pointed out that in

In the Question Box

Change or Change-Over

By Speakers Division 8741-1

Must the change to Technocracy be sudden or can it be brought on gradually? E. A. R.

The answer is that it will be both. Perhaps we'd better explain.

There is an old saying that has stymied the thought processes of a lot of people. It is to the effect that: 'Sudden changes are never profound, and profound changes are never sudden.' Like most philosophical conclusions, it obstructs the road to clear thinking. We suspect it is lurking in the background of this question.

Death is a sudden change, yet it is quite profound. The birth of a baby is a profound change (for both baby and mother), and it is often sudden. Yet, any physician can tell you that a person begins to die shortly after he is born; and that a nine-month long process of gestation and development is necessary to effectuate birth.

There are thousands of other examples wherein the 'change' we usually think of as occurring suddenly actually doesn't occur that way at all. What happens is that there are causative factors and a process of accelerating development at work behind the scene. These factors and this process are the *real* change. The phenomena we look upon as being 'changes' are actually but events marking the transition from one stage of development to another. They are the periodic culmination points of a process.

There are some exceptions to this, perhaps, as in the case of biological mutations, wherein a new type suddenly appears for no known reason. However, we are not concerned with the fine points of evolution. Our sub-

ject is social change, and there are no cases on record where a civilization suddenly mutated from one stage to another for no known reason. In fact, the Price System type of social order has been all but world-wide for as far back as written records go. All during this long period, there were causative factors and a slow process of development at work behind the scenes producing widely interspersed, transitional events (changes) from one stage of development to another.

One might list the earlier of these events as the discovery of fire, invention of the wheel, domestication of plants and animals, discovery of the principles of the lever, wedge, inclined plane, etc. By and large, however, the process of development accelerated but slowly, for ages. Civilization remained at a low handicraft-agrarian level, and there was little alteration in the way man lived. As time went on, the causative factors behind the process of development gathered force. Among these were environmental factors, population pressures and the growth of scientific knowledge. Eventually the accompanying process of development accelerated to a major transitional event (change) and the steam engine was invented.

That peak is usually marked as the beginning of the Industrial Revolution. This is still going on, gathering momentum all the time. It is a unidirectional process of development that has already produced a number of major transitional events (changes). Some of these might be listed as the locomotive, internal combustion engine, steam turbine, electrical gener-

ation, steamship, airplane, telegraph, telephone, radio, atomic power, etc. But why go on? The list grows longer, and the transitional events (changes) from one stage of development to another occur with increasing frequency as the Industrial Revolution advances. Each and every event in this growing series points toward the invalidation of the Price System. Collectively, this tendency may be called the trend of events.

The process of development in North America has accelerated its pace rapidly from the ancient leisurely tempo. In the last generation it has reached the boiling point. Today it is threatening to boil over, almost anytime now. The Price System is incapable of doing anything about it. The trend of events is inexorable. It feeds on itself. The Industrial Revolution ushered a quantitative change into human society. When any quantitative change proceeds far enough, it becomes a qualitative change. That is what we are facing today.

The causative factors and process of development behind the scene are now operating at a much greater order of magnitude than before the war. Social change resulting therefrom has, however, been restricted to partial adaptations on the industrial side of society. It has often been said that we now live in a different world than did our grandfathers. This is only partly correct. Industrial production today is carried on by technological methods and principles of control. But we still cling stupidly to all the decaying social institutions and methods of control evolved during long static ages. We refuse to alter or adapt them to a higher stage of development compatible with the trend of events (direction of social change).

This differential of development is the root cause of our social problems

in North America. It sets up new, insoluble and growing social tensions, unbalances and problems. These create an increasing pressure for overall social change. Some of these days, soon, the lid will blow off, or, to put it another way, the Price System will collapse because of its inability to adapt itself to the trend of events. What will happen at that point is that our entire social system will have reached the last culmination point of its dual process of decay and development. The resulting transitional event (change) will probably be sudden, profound and permanent, one way or the other.

We say 'one way or the other' because there is no guarantee that the collapse of the Price System, as we know it today, will automatically project America into a higher stage of development. It is possible to go backwards, also. Please remember that fascism is hard at work in North America. If it gets into control, there will be hell to pay all around. Thus while we know that this major event will occur, there is no certainty that it will result in a change to technological methods of social control. It all depends on what we do about it now, before it happens.

The change to Technocracy has been going on (right under our noses) for a generation, in that the trend of events has inclined that way. The critical point will be reached when it becomes necessary to make the change-over from the Price System or else revert backward. At that point a fool-proof social technique will be sorely needed. Technocracy has already analyzed this problem and blue-printed the solution. The decay of the Price System and its collapse can be channelized into a long step forward and upward to a higher civilization.

That is the job Technocracy is working at. It is preparing for that social change which is the manifest destiny of North America's technological civilization. It will be a change from insecurity, artificial scarcity and in-

equality of opportunity to abundance, distribution, security and equality of opportunity for all citizens. What more can any one ask for? Why not pitch in and help?

Looking for a Job?

Here is a concept for a Continent worthy of America's special ability to act and to perform. Worthy, because it will guarantee our Security of our capacity to function; for the twentieth century belongs to the Continent which first installs its own security and abundance. Technocracy's specifications for North America's Continental Hydrology, together with such other specifications as the Energy Certificate, Technocracy's Flying Wing, etc., will guarantee security and abundance for you and for me.

Here are some of the main features of this Hydrology:

The St. Lawrence River is the highway to the sea of the greatest water system on earth. The Great Lakes water system is a natural water highway possessed by no other continent. From these great inland fresh water seas in the heart of the Continent, modern engineering, when unhampered by the interference controls of the Price System, will construct water highways to the Mississippi, the Ohio, the Hudson, Lake Winnipeg, and points west, and to the Hudson Bay by man-made Lake Albany.

Seventeen miles north of St. Louis, the Missouri flows into the Mississippi. Two thousand four hundred ninety miles northwest of there, where the Jefferson, the Madison and the Gallatin unite at Three Forks, Mont., there is the spot of importance, for it is only a short distance from the sources of some of the rivers which flow into the mighty Columbia River.

Technology knows how to connect this spot with the Columbia River through its tributaries. Technocracy's Continental Hydrology is a huge project dwarfing even the proposed Ichang dam project in China. In addition to waterways this Continental Hydrology involves establishing a Continental electrical transmission system of one million volts d.c.

Technocracy makes it quite clear that the fundamentals of design of waterways, comprising the Continental Hydrology, is a total departure from the limitations of European and Asiatic canal systems and also from the proposed politically-sponsored river development systems before Congress.

Technocracy recognizes that this North American Hydrology will naturally be violently opposed by the railroads, banking houses, existing export and import shipping firms, by the vast interests under fascist domination. Just as likely the small merchant, the transient crop picker, the housewife, will share such opposition because the butcher, the baker, yes, even the lonely candlestick maker, will tell them to. Fascist domination, political maneuvering, is everywhere, lurking in the guise of 'democracy.' How can any one of us have real democracy within the framework of enforced scarcity? Within the framework of deliberate economic sabotage? Within the framework of painstakingly guided deception, superstition and crime?" — (*Technocratic America*, July, 1946).

Chase Them Out of Here

Great Lakes Technocrat Has Finally Gone 'Crazy'

Inventory on hand as of July 25, 1946, reveals Great Lakes Technocrat stockroom infested with 1,022 copies of prewar (1941-1942) issues. Here's what they consist of:

ISSUE NUMBER	COPIES ON HAND	FEATURE-* ARTICLE
39—October, 1940	2	Alien Controls in America
41—January, 1941	4	Prelude to Technocracy
42—February, 1941	70	America's First Line of Defense
45—May, 1941	54	American Health Service
46—June, 1941	23	War Speeds Social Crisis
48—August, 1941	127	Man and Metals
51—November, 1941	27	Man and Society
52—December, 1941	67	The Diesel Engine
54—February, 1942	98	Faith vs. Knowledge
56—April, 1942	19	What Price Patriotism?
57—May, 1942	23	The American Way
59—July, 1942	246	7000 Years of Progress
61—October, 1942	218	10% is not Enough
<hr/> 1022		

*This refers to only one of many articles in each issue. Scattered throughout the series are pertinent items regarding Technocracy's stand on Defense and War before and after Pearl Harbor.

You need This Material For Your Files.

Check Up on Technocracy's War Record.

These magazines have no function in our stockroom. They are malingering on the shelf, sabotaging YOUR efforts to advance Technocracy. Don't let them get away with it. Chase them out of here! Due to the cutthroat nature of the Price System, Great Lakes Technocrat cannot do this job itself. That pleasure is reserved for our readers.

Let Your Dollars Chase Them Out!

25 copies for \$1.00	Postpaid in U. S. and Canada		
60 copies for \$2.00	"	"	"
90 copies for \$3.00	"	"	"
120 copies for \$4.00	"	"	"
150 copies for \$5.00	"	"	"

The more you spend, the less we make. Note the bonus with every dollar after the first one. Ten extra copies with the second dollar, 15 with the third, 20 with the fourth and 25 with the fifth. The Post Office will get most of this for parcel post charges. It doesn't make any Price System sense at all. Great Lakes Technocrat has finally gone 'crazy.' Nevertheless, these 1941-1942 issues must be put out to work for the New America. That makes sense, doesn't it?

Chase Them Out Of Here.

As long as possible, we'll fill orders by numbers; after that, we'll mix them up.

First Come—First Served

Address: Great Lakes Technocrat, 843 Belmont Avenue
Chicago 14, Illinois

Too Much Energy

"Although the age of atomic energy may be just ahead, steam now provides the bulk of generating capacity. *The Power Industry and the Public Interest* shows that at the beginning of 1941, 70 percent of the country's total generating capacity was derived from steam, 28.6 percent from water power and 1.4 percent from internal combustion engines. Although the relative importance of hydro-electric power has increased slightly since 1935, the unused water resources in that year would, if utilized, have increased the national output by nearly 150 percent.—*20th Century Fund Newsletter*, Spring-Summer 1946.

"—the apparently sudden increase in potential power of aggressors (atomic bomb, etc.) is only a spectacularly dramatic expansion of technological developments which have been slowly accelerating for hundreds of thousands of years, and which now have a speed of increase which threatens to disorganize civilization."—Professor Hornell Hart of Duke University in an article in the *American Sociological Review*. (As quoted by Waldemar Kaempffert, science editor in the *New York Times*, June 9, 1946).

No Connection

An American soldier who had heard of English eccentricity, found himself one day—in a remote village—riding in a pony trap with a retired colonel.

Every hundred yards the colonel took a little pinch of powder from a packet and threw it on the road behind him. Finally, the G. I. asked what the powder was.

'It's anti-lion powder,' said the colonel sternly.

'But,' said the American, 'there are no lions in this country.'

'You're right,' said the colonel, 'and it's a good thing too because this anti-lion powder is no earthly good.'

* * *

Some Technocracy Section addresses in Great Lakes area

- 8040- 2—Box 356, Ambridge, Pa.
- 8040- 3—158 Brighton Ave., Rochester, Pa.
- 8041- 1—1613 East 51st St., Ashtabula, Ohio.
- 8141- 3—39 E. Market St., Akron, O.
- 8141- 4—2237 Front St., Cuyahoga Falls, Ohio.
- 8141- 7—P. O. Box 270, Barberton, O.
- 8141-14—P. O. Box 553, Kent, Ohio.
- 8141-15—10537 St. Claire Ave., Cleveland 8, Ohio.
- 8240- 1—207 N. Washington St., Gallion, Ohio.
- R. D. 8242—c/o John Reynolds, St. Clair, R. No. 2, Mich.
- 8341- 1—1430 Adams St., Toledo 2, Ohio.
- 8342- 2—112 N. Tasmania, Pontiac, Mich.
- 8342- 1—9108 Woodward Ave., Detroit, Mich.
- 8343- 1—6717 N. Saginaw St., Flint, 5, Mich.
- 8439- 1—P. O. Box 81, Station A, Dayton, Ohio.
- 8741- 1—3178 N. Clark St., Chicago 14, Ill.
- 8743- 1—3546 N. Green Bay Ave., Milwaukee 12, Wis.
- 8844- 1—620 S. Broadway, Green Bay, Wis.
- 8844- 2—1011 W. College Ave., Appleton, Wis.
- 8844- 3—135 Van St., Neenah, Wis.
- 9038- 1—4518 Delmar Blvd., St. Louis, Mo.
- R. D. 9041—2428 13th Ave., Rock Island, Ill.
- R. D. 9140—18 N. 5th St., Keokuk, Iowa.
- 9344- 1—30 N. 10th St., Minneapolis 3, Minn.
- R. D. 9344—527 Wabasha St., St. Paul 2, Minn.
- 9439- 1—P. O. Box 209, Kansas City 17, Kan.
- 9648- 1—P.O. Box 178, Warren, Minn.
- R. D. 9737—4442 Bayley, Wichita 9, Kan.

TECHNOCRACY

NORTH AMERICA'S ONLY SOCIAL DYNAMIC

WHAT?

★ Technocracy is the only North American social movement with a North American program which has become widespread on this continent. It has no affiliation with any other organization, group or association either in North America or elsewhere.

★ The basic unit of Technocracy is the chartered Section consisting of a minimum of 25 members and running up to several hundred.

★ It is not a commercial organization or a political party; it has no financial subsidy or endowment and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$6.00 which are paid by the member to his local Section.

★ Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHERE?

★ There are units and members of Technocracy in almost every State in the U. S. and in all Provinces in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces.

★ Members of Technocracy are glad to travel many miles to discuss Technocracy's Victory Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHEN?

★ Technocracy originated in the winter of 1918-1919 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934, Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundations of the present nation-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or re-births. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHO?

★ Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life, Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this continent. Membership is open only to North American citizens. Aliens, Asiatics and politicians are not eligible. (By politicians is meant those holding elective political office or active office in any political party.)

★ Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—as long as you are a patriotic North American—you are welcome in Technocracy.

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Land of Free Enterprise

Devil Take The Majority

'American industry is not free, as once it was free; the man with only a little capital is finding it harder to get into the field, more and more impossible to compete with the big fellow.'—Woodrow Wilson, 28th President of the U. S., in his book *The New Freedom*, published in 1913.

In order to illustrate this, GLT present a partial list of American companies, the product they produce and the percentage of the market, or capacity, controlled by them. It is evident that one of the chief freedoms of free enterprise is the freedom to monopolize the market.

Who Owns America?

NUMBER OF COMPANIES	TYPE OF PRODUCT	PERCENT OF TOTAL MARKET CONTROLLED
3	Automobiles	86
2	Beef Products	47
3	Cans	90
5	Cement	40
3	Cigarettes	80
4	Copper	78
2	Plate Glass	95
4	Iron Ore	64
3	Steel	61
4	Natural Gas	55
10	Farm Implements	89
4	Electrical Machinery	52
4	Auto Bodies & Parts	70
8	Motion Pictures	65
2	Light Bulbs	100
2	Milk Bottles	75
1	Fruit Jars	76
1	Shoe Machinery	95
3	News	100
2	Aluminum	100
250	Total American Plant Capacity	65
100	World War No. 2 Prime Contracts	66

In the top 1710 'most widely owned' enterprises in the U. S. 8.5 percent of the shareholders own 74.1 percent of the total value of stock.

Sources: Federal Trade Com.; Senate Small Business Com.; Forbes Magazine; Wall Street Journal; Security and Exchange Com.; National Resources Com.; T.N.E.C.

'Private enterprise is ceasing to be free enterprise and is becoming a cluster of private collectivisms; masking itself as a system of free enterprise after the American model, it is in fact becoming a concealed cartel system after the European model.'—The late President Franklin D. Roosevelt, in a message to Congress on April 29, 1938. (As quoted in *Domestic Commerce*, July, 1946.)